

DARIEN K. WALLACE (Bar No. 139798)
T. LESTER WALLACE (Bar No. 159967)
IMPERIUM PATENT WORKS
P.O. Box 587
Sunol, California 94586
e-mail: Darien@ImperiumPW.com.com
Telephone: 925-862-9972
Facsimile: 925-835-5804

Attorneys for Plaintiff
ZINUS, Inc.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

C07 03012

Case No.:

ZINUS, INC., a California
corporation,

Plaintiff,

v.

SIMMONS BEDDING COMPANY,
a Delaware corporation, and
DREAMWELL, LTD., a limited
liability company of Nevada,

Defendants.

**COMPLAINT FOR DECLARATORY
JUDGMENT AND UNFAIR
COMPETITION IN VIOLATION OF
LANHAM ACT**

DEMAND FOR JURY TRIAL

#14
Fees Pl
SF

E-FILED

ADR

Sm

RICHARD W. WICKING
CLERK
U.S. DISTRICT COURT
NO. DIST. OF CA. S.J.

2007 JUN 11 A 10:47

FILED

1

COMPLAINT AND JURY DEMAND

Plaintiff Zinus, Inc. ("Zinus"), by and through its attorneys, alleges, based on information and belief, as follows:

1. This is a civil action arising under the Patent Laws of the United States, 35 U.S.C. §§101, et seq., seeking declaratory judgment that United States Patent Number Re. 36,142 ("the '142 Patent") is invalid and not infringed by Zinus. A copy of the '142 Patent is attached hereto as Exhibit A.

2. This civil action also arises under section 43(a) of the Lanham Act of 1946, 15 U.S.C. §1225(a), seeking damages and an injunction preventing defendants from making false marketplace statements that Zinus' products infringe the '142 Patent.

THE PARTIES

3. Plaintiff Zinus, Inc. ("Zinus") is a corporation organized and existing under the laws of the State of California. Zinus maintains its principal place of business at 7068 Koll Center Parkway, Suite 245, Pleasanton, California 94566. Zinus manufactures and sells specialty sleep, travel, and homecare products.

4. Defendant Simmons Bedding Company ("Simmons") is one of the world's largest manufacturers of bedding products and controls its wholly-owned subsidiary Dreamwell, Ltd. ("Dreamwell"). Simmons licenses its trademarks, patents and other intellectual property to various domestic and foreign manufacturers principally through its wholly-owned subsidiary Dreamwell. Dreamwell is the alleged owner of the '142 Patent and has licensed the '142 Patent to Simmons.

5. Dreamwell is a limited liability company of Nevada and has a principal place of business at 2325-B Renaissance Dr., Suite 15, Las Vegas, Nevada 89119.

6. Simmons Bedding Company is a corporation organized under the laws of Delaware and has a principal place of business at One Concourse Parkway, Suite 800, Atlanta, Georgia 30328.

JURISDICTION AND VENUE

7. Zinus brings this complaint against Dreamwell pursuant to the patent laws of the United States, Title 35 of the United States Code, with a specific remedy sought based upon the laws authorizing actions for declaratory judgment in the courts of the United States, 28 U.S.C. §§2201 and 2202.

8. This Court has subject matter jurisdiction over the patent counts, which arise under the patent laws of the United States, pursuant to 28 U.S.C. §§1331, 1338 and 2201. This Court has subject matter jurisdiction over the Lanham Act count (Count 3) pursuant to the provision of 28 U.S.C. §§1121 and 1338 and section 43(a) of the Lanham Act of 1946, 15 U.S.C. §1225(a).

9. Upon information and belief, Simmons has ongoing and systematic contacts with this Judicial District. Simmons sells mattresses in this Judicial District. Upon information and belief, Simmons manufactures, sells and ships bedding products within this Judicial District through its subsidiary The Simmons Manufacturing Co., LLC at 1700 Fairway Dr., San Leandro, CA 94577.

10. Upon information and belief, this Court has general personal jurisdiction over Simmons pursuant to Fed. R. Civ. P. 4, and therefore has personal jurisdiction over Simmons with respect to all counts (Counts 1-3).

11. Upon information and belief, Dreamwell is a wholly-owned subsidiary of, is controlled by, and is an alter ego of, Simmons. This Court therefore has general personal jurisdiction over Dreamwell with respect to all counts (Counts 1-3).

12. Upon information and belief, Dreamwell knew or should have known that the brunt of the harm caused by Dreamwell's actions of unfair competition would be felt by Zinus in this Judicial District. Upon information and belief, Dreamwell has purchased products manufactured by Zinus from walmart.com in this Judicial District. Wal-Mart.com USA, LLC operates the on-line store walmart.com and is located at 7000 Marina Blvd., Brisbane, CA 94005. This Court therefore has specific personal jurisdiction over Dreamwell with respect to the Lanham Act count (Count 3).

1 13. Upon information and belief, this Court has supplemental personal jurisdiction
2 over Dreamwell Ltd. with respect to Counts 1 and 2 pursuant to 28 U.S.C. §1367(a).

3 14. Upon information and belief, venue in this District is proper because Simmons
4 and Dreamwell reside in this Judicial District pursuant to 28 U.S.C. §§1391 and 1400.

5
6 **INTRADISTRICT ASSIGNMENT**

7 15. Pursuant to Civil Local Rule 3-2(c), because this action is an intellectual
8 property action, it is properly assigned to any of the divisions in this District.

9
10 **FACTUAL ALLEGATIONS APPLICABLE TO ALL COUNTS**

11 16. There exists an actual controversy within the jurisdiction of this Court under 28
12 U.S.C. §§2201 and 2202.

13 17. Heretofore, bedding manufacturers have achieved high margins by distributing
14 mattresses through dedicated bedding stores. Mattresses have traditionally not been sold in
15 mass market retail stores, such as Wal-Mart, Kmart, and Target, due to the large amount of
16 floor space required to display and shelve mattresses. Moreover, prospective customers
17 cannot transport large bulky mattresses from retail stores to their homes using the types of
18 transportation commonly used by customers to frequent a retail store. Through this business
19 model of selling through dedicated bedding stores, Simmons has achieved annual sales of
20 about one billion dollars.

21 18. Zinus recently began manufacturing a revolutionary bedding product called
22 "Mattress-in-a-Box". This product enables a mattress to be sold in a readily transportable
23 box. Consequently, it will be possible for consumers to purchase mattresses in mass market
24 retail stores. Zinus believes that if mattresses are manufactured and sold in this fashion, then
25 the logistics and economies of scale of large retail stores such as Wal-Mart will enable
26 mattresses to be sold at a lower price to end customers.

27 19. In a pilot sales project in late 2006 and early 2007, Wal-Mart sold the Mattress-
28 in-a-Box product in approximately one hundred Wal-Mart stores. It is believed that as

1 consumers adopt the newer mode of purchasing mattresses, Zinus will sell hundreds of
2 millions of dollars worth of the Mattress-in-a-Box product each year. Wal-Mart currently
3 sells the Mattress-in-a-Box product through its affiliated company Wal-Mart.com USA,
4 LLC, located near San Francisco, California, and Wal-Mart is planning to include the
5 Mattress-in-a-Box product in a new marketing campaign to sell bedding products through its
6 stores.

7 20. In addition to selling the Mattress-in-a-Box product through walmart.com and in
8 Wal-Mart stores, Zinus intends to sell the Mattress-in-a-Box product in Kmart and Target
9 retail stores.

10 21. For one model of the Mattress-in-a-Box product, Zinus' sales price is generally
11 about \$100, and the Wal-Mart retail price to consumers for the same product is generally
12 about \$250. A comparable mattress manufactured by Simmons and sold through a dedicated
13 bedding store retails for generally about \$600.

14 22. In March 2007, Simmons approached Zinus to discuss the possibility of
15 purchasing product from Zinus. Simmons expressed an interest in visiting the Zinus factory
16 in Xiamen, China. Zinus believed that Simmons was interested in purchasing the Mattress-
17 in-a-Box product for reselling through dedicated bedding stores under a Simmons brand.

18 23. Before a factory visit could occur, Zinus required Simmons to execute a
19 Confidentiality and Non-Disclosure Agreement (attached hereto as Exhibit B). On March
20 30, 2007, Ms. Sheri Harms, Director Supply Chain and National Purchasing, executed the
21 agreement on behalf of Simmons. The agreement specifically lists the principal office of
22 Zinus being located in Pleasanton, California. Pursuant to the agreement, Simmons agreed
23 not to use confidential information, other than as authorized by Zinus, in any manner
24 whatsoever. The agreement specifically states that Confidential Information will be
25 transmitted only to those who need to know such information for purpose of evaluating a
26 contemplated future business arrangement. The entire pretext of Simmons' visiting the Zinus
27 factory in China was to evaluate products that Simmons would potentially purchase.

28 24. Thereafter representatives of Simmons visited the Zinus factory in China. The

1 Simmons representatives were shown the manufacturing process of the "Mattress-in-a-Box"
2 product. The Simmons representatives took photographs.

3 25. Rather than receiving an order from Simmons to purchase Zinus products, Zinus
4 received a cease-and-desist letter from a third party, Dreamwell, Ltd. (attached hereto as
5 Exhibit C). The cease-and-desist letter dated May 18, 2007, states that "the Mattress-in-a-
6 Box Product is the very subject matter of claim 1 of [the '142 Patent]." The cease-and-desist
7 letter demands that Zinus provide "an accounting of all sales of Mattress-in-a-Box Products
8 that have occurred within the United States, in order for Dreamwell to determine the
9 monetary damages due for infringing sales" (emphasis added).

10 26. In addition, Dreamwell sent a cease-and-desist letter dated May 18, 2007, to
11 Wal-Mart (attached hereto as Exhibit D). The letter was sent on behalf of a company located
12 in Nevada (Dreamwell) to a company in Arkansas (Wal-Mart). On information and belief, a
13 company located in Georgia (Simmons) caused Dreamwell to send the letter.

14 27. The cease-and-desist letter to Wal-Mart makes false and misleading statements
15 and disparages Zinus' Mattress-in-a-Box product. In particular, the letter states that the
16 Mattress-in-a-Box product "is the very subject matter of claim 1 of [the '142 Patent]." This is
17 untrue, and Simmons knew or should have known it to be untrue. The letter also states that
18 "The sample Zinus Product that we purchased from Wal-Mart . . . Please see the attached
19 image." Simmons knew that the attached image was not a photograph of a Mattress-in-a-
20 Box product purchased from Wal-Mart. The attached image is a photograph that was taken
21 in the Zinus factory in China, presumably by the Simmons representatives who visited the
22 Zinus factory after Simmons signed the Confidentiality and Non-Disclosure Agreement of
23 Exhibit B. Objects from the factory are visible in the background of the photograph.
24 Simmons provided the photograph to the third party Dreamwell for purposes of preparing the
25 cease-and-desist letter (Exhibit D), thereby knowingly violating the Confidentiality and Non-
26 Disclosure Agreement (Exhibit B).

27 28. The cease-and-desist letter to Wal-Mart states that the Mattress-in-a-Box
28 product "is an innerspring mattress inserted into a tube of plastic material. That tube is

1 sealed at one end and the mattress is vacuum compressed within the tube" (emphasis added).
2 Simmons knew that the Mattress-in-a-Box product is not vacuum compressed because the
3 Simmons representatives witnessed Zinus mattresses being mechanically compressed without
4 the use of any vacuum equipment. Simmons knew or should have known that the Mattress-
5 in-a-Box product is not "the very subject matter of claim 1 of [the '142 Patent]" because
6 claim 1 and each of the other independent claims of the '142 Patent require "evacuating air
7 from said tube through said second end thereby . . . causing said mattress assembly to
8 compress". The statement made to Wal-Mart that the Mattress-in-a-Box product infringes
9 the '142 was made by Dreamwell in bad faith. This false and misleading marketplace
10 statement made in the cease-and-desist letter to Wal-Mart had a damaging impact on Zinus.

11 29. Dreamwell knew that the brunt of the injury caused by the cease-and-desist
12 letter to Wal-Mart would be felt in California because Dreamwell acknowledged in the
13 cease-and-desist letter that Zinus is from Pleasanton, California.

14 30. The false and misleading statement disparaged the Mattress-in-a-Box product
15 had an impact on Wal-Mart. The impact on Wal-Mart is evidenced by a letter sent by Wal-
16 Mart to Zinus on May 29, 2007 (attached hereto as Exhibit E). The letter indicates that Zinus
17 is likely to be damaged by the statement of alleged infringement because Wal-Mart implied
18 that it would discontinue sales of the Mattress-in-a-Box product unless Zinus took certain
19 actions to resolve the alleged infringement. On information and belief, Wal-Mart will be
20 dissuaded from including the Mattress-in-a-Box product in its new marketing campaign for
21 bedding products because of the misleading marketplace statements by Dreamwell that
22 disparage the Mattress-in-a-Box product.

23 31. Zinus has a reasonable apprehension that Dreamwell will make similar false and
24 misleading statements regarding the Mattress-in-a-Box product to other prospective
25 customers, such as Kmart and Target. If Dreamwell makes similar disparaging statements to
26 Kmart or Target, it is likely that Zinus will be damaged by losing prospective sales.

FIRST COUNT

(Declaratory Judgment of Non-Infringement)

32. Zinus hereby restates and realleges the allegations set forth in paragraphs 1 through 31 above and incorporates them by reference.

33. This is an action for declaratory judgment of non-infringement of any and all valid claims of the '142 Patent.

34. Zinus has an objectively reasonable apprehension that Dreamwell will bring a patent infringement action against Zinus and/or Zinus' customers.

35. Dreamwell has alleged that it owns the '142 Patent and that Simmons is Dreamwell's licensee.

36. Dreamwell has alleged that the sale of Zinus' Mattress-in-a-Box product infringes the '142 Patent.

37. Accordingly, there exists an actual, justiciable controversy between Zinus and Dreamwell relating to whether the claims of the '142 Patent are infringed by Zinus or Zinus' customers.

38. Zinus requests a judicial determination and declaration (pursuant to 28 U.S.C. §§2201 and 2202) that Zinus has not infringed, and is not infringing, either directly or indirectly, contributorily or otherwise, any valid claim of the '142 Patent.

SECOND COUNT

(Declaratory Judgment of Invalidity)

39. Zinus hereby restates and realleges the allegations set forth in paragraphs 1 through 38 above and incorporates them by reference.

40. This is an action for declaratory judgment of invalidity of any and all claims of the '142 Patent.

41. Zinus has an objectively reasonable apprehension that Dreamwell will bring a patent infringement action against Zinus and/or Zinus' customers.

42. The claims of the '142 Patent are invalid for failure to comply with one or more

1 of the requirements for patentability in 35 U.S.C. §§102, 103, and 112.

2 43. Accordingly, there exists an actual, justiciable controversy between Zinus and
3 Dreamwell relating to whether the claims of the '142 Patent are invalid.

4 44. Zinus requests a judicial determination and declaration (pursuant to 28 U.S.C.
5 §§2201 and 2202) that all claims of the '142 Patent are invalid.

6
7 **THIRD COUNT**

8 (Unfair Competition - Product Disparagement)

9 45. Zinus hereby restates and realleges the allegations set forth in paragraphs 1
10 through 44 above and incorporates them by reference.

11 46. Dreamwell's cease-and-desist letter to Wal-Mart contains marketplace
12 statements of fact that are false and misleading and that disparage Zinus' products in
13 violation of the Lanham Act 43 (15 U.S.C. §1125(a)).

14 47. Dreamwell's statements that Zinus' products infringe the '142 Patent were false
15 and misleading, were made willfully with an intent to deceive, and were made in bad faith.
16 Simmons knew, and Dreamwell should have known, that the sale of Zinus' Mattress-in-a-
17 Box product could not infringe any claim of the '142 Patent.

18 48. Dreamwell's false and misleading statements were likely to deceive the intended
19 audience, Wal-Mart.

20 49. Dreamwell's false and misleading statements were material in that they were
21 and are likely to influence purchasing decisions of a Zinus customer, Wal-Mart.

22 50. Dreamwell caused the false and misleading statements to enter interstate
23 commerce.

24 51. Simmons caused Dreamwell to make the false and misleading statements
25 regarding products of Zinus, located in California. Simmons and Dreamwell knew that the
26 brunt of the injury caused by the false and misleading statements would be felt in California.

27 52. Dreamwell's false and misleading statements have damaged and injured Zinus,
28 have disparaged Zinus products, and will result in probable future injury to Zinus. Zinus is

1 likely to be damaged by the false and misleading statements due to Wal-Mart's being
2 dissuaded from including the Mattress-in-a-Box product in Mal-Mart's new marketing
3 campaign.

4 53. Zinus is informed and believes and on that basis alleges that Dreamwell's false
5 and misleading statements were made knowingly, deliberately and fraudulently without
6 extenuating circumstances. Zinus is therefore entitled to recover three times the amount of
7 its damages, as well as its attorneys' fees and costs incurred in this action pursuant to 35
8 U.S.C. §1117(a).

9
10 **PRAYER FOR RELIEF**

11 **WHEREFORE**, Zinus requests that this Court:

12 A. Declare (pursuant to 28 U.S.C. §§2201 and 2202) that Zinus has not infringed
13 and is not infringing, directly, indirectly or contributorily, any valid claim of U.S. Patent No.
14 Re. 36,142;

15 B. Declare (pursuant to 28 U.S.C. §§2201 and 2202) that each claim of U.S. Patent
16 No. Re. 36,142 is invalid;

17 C. Declare this case exceptional under 35 U.S.C. §285 and award Zinus reasonable
18 attorneys' fees and costs in connection with this action;

19 D. Declare that Dreamwell and Simmons have made false and misleading
20 statements in violation of the Lanham Act (15 U.S.C. §1125(a));

21 E. Award Zinus an injunction that preliminarily and permanently enjoins
22 Dreamwell and Simmons, their directors, officers, agents, employees, owners and
23 shareholders, all other persons in active concert or privity or in participation with them, and
24 all subsidiaries and affiliates of Dreamwell and Simmons, from directly or indirectly making
25 the aforesaid false and misleading statements;

26 F. Award Zinus compensatory damages, including the cost of this action, pursuant
27 to 15 U.S.C. §1117(a);

28 G. Declare this case exceptional under 35 U.S.C. §1117(a) and award Zinus

1 attorneys' fees in connection with this action; and

2 H. Award Zinus such other and further relief as the Court deems just and proper.

3
4 Dated: June 11, 2007

IMPERIUM PATENT WORKS

5
6 By: *Darien K. Wallace*
Darien K. Wallace

7
8 Darien K. Wallace (Bar No. 139798)
9 T. Lester Wallace (Bar No. 159967)
10 IMPERIUM PATENT WORKS
11 P.O. Box 587
12 Sunol, CA 93486
13 Telephone: (925) 862-9972

14
15 Attorneys for Plaintiff
16 ZINUS, INC.

17
18
19 **DEMAND FOR JURY TRIAL**

20 Plaintiff Zinus hereby demands a trial by jury as to all issues and causes of action so
21 triable herein, pursuant to Federal Rule of Civil Procedure 38.

22
23 Dated: June 11, 2007

IMPERIUM PATENT WORKS

24
25 By: *Darien K. Wallace*
26 Darien K. Wallace

27
28 Darien K. Wallace (Bar No. 139798)
T. Lester Wallace (Bar No. 159967)
IMPERIUM PATENT WORKS
P.O. Box 587
Sunol, CA 93486
Telephone: (925) 862-9972

Attorneys for Plaintiff
ZINUS, INC.

1 DARIEN K. WALLACE (Bar No. 139798)
2 T. LESTER WALLACE (Bar No. 159967)
3 IMPERIUM PATENT WORKS
4 P.O. Box 587
5 Sunol, California 94586
6 e-mail: Darien@ImperiumPW.com.com
7 Telephone: 925-862-9972
8 Facsimile: 925-835-5804

6 Attorneys for Plaintiff
7 ZINUS, Inc.

8 UNITED STATES DISTRICT COURT
9 NORTHERN DISTRICT OF CALIFORNIA
10 SAN JOSE DIVISION

11 ZINUS, INC., a California
12 corporation,
13 Plaintiff,
14 v.
15 SIMMONS BEDDING COMPANY,
16 a Delaware corporation, and
17 DREAMWELL, LTD., a limited
liability company of Nevada,
Defendants.

Case No.:

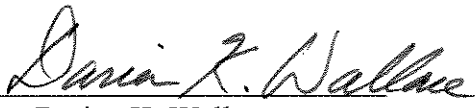
**CERTIFICATION OF INTERESTED
ENTITIES OR PERSONS**

CERTIFICATION OF INTERESTED ENTITIES OR PERSONS

Pursuant to Civil L.R. 3-16, the undersigned certifies that the following listed persons, associations or persons, firms, partnerships, corporations (including parent corporations) or other entities (i) have a financial interest in the subject matter in controversy or in a party to the proceeding, or (ii) have a non-financial interest in that subject matter or in a party that could be substantially affected by the outcome of this proceeding: Zinus Korea of Kyunggi-Do, Korea; Wal-Mart Stores, Inc.; and Wal-Mart.com USA, LLC.

Dated: June 11, 2007

IMPERIUM PATENT WORKS

By: 
Darien K. Wallace

Darien K. Wallace (Bar No. 139798)
T. Lester Wallace (Bar No. 159967)
IMPERIUM PATENT WORKS
P.O. Box 587
Sunol, CA 93486
Telephone: (925) 862-9972

Attorneys for Plaintiff
ZINUS, INC.

EXHIBIT A



US00RE36142E

United States Patent [19]

[11] E

Patent Number: Re. 36,142**Steed et al.**[45] **Reissued Date of Patent: Mar. 16, 1999**[54] **METHOD OF PACKAGING RESILIENTLY COMPRESSIBLE ARTICLES**

3,585,700 6/1971 Jansson 53/436

3,611,524 10/1971 Broyles 53/432

4,234,983 11/1980 Stumpf .

[75] Inventors: **C. Edward Steed**, Alpharetta; **Ricky F. Gladney**, Fairburn, both of Ga.

4,575,990 3/1986 von Bismarck 53/469

4,854,023 8/1989 Stumpf 53/114

[73] Assignee: **Simmons Company**, Atlanta, Ga.[21] Appl. No.: **919,655**[22] Filed: **Aug. 28, 1997***Primary Examiner*—James F. Coan*Assistant Examiner*—Gene L. Kim*Attorney, Agent, or Firm*—Jones, Day, Reavis & Pogue**Related U.S. Patent Documents**

Reissue of:

[64] Patent No.: **5,622,030**Issued: **Apr. 22, 1997**Appl. No.: **694,803**Filed: **Aug. 9, 1996**

U.S. Applications:

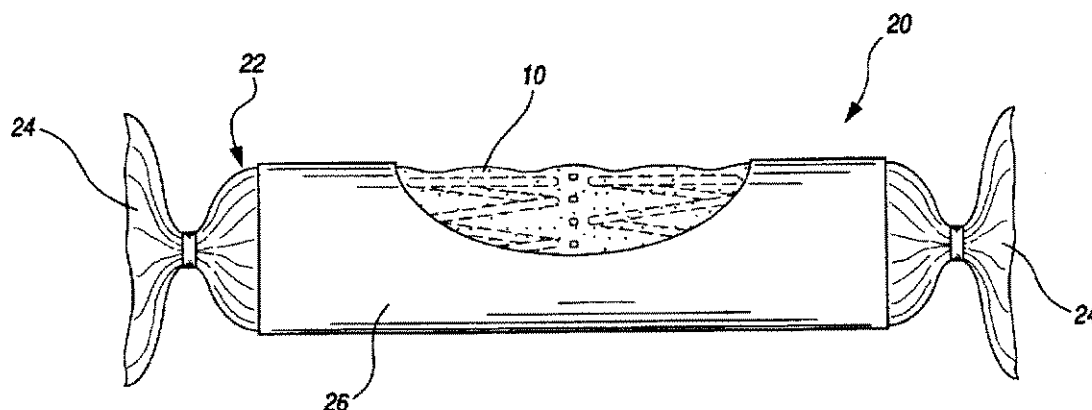
[63] Continuation of Ser. No. 416,065, Apr. 4, 1995, abandoned.

[51] Int. Cl.⁶ **B65B 1/24**[52] U.S. Cl. **53/436; 53/524; 53/528; 53/114**[58] Field of Search **53/432, 436, 469, 53/399, 114, 524, 528**[56] **References Cited****U.S. PATENT DOCUMENTS**

1,861,429 5/1932 Schneider et al. 53/114

[57] **ABSTRACT**

A method of packaging a resiliently compressible article comprises the steps of inserting the article into a tube of deformable material such that excess material is provided at the ends of the tube. A first end of the tube is then sealed closed. Air is then evacuated from the tube through the second end thereby deforming the tube around the article and causing the article to compress. While a vacuum is maintained in the tube, the second end of the tube is sealed closed. A containment sleeve is fitted over the sealed tube to maintain the article in a compressed state. When the article is unpackaged, the containment sleeve is severed and the tube is allowed to expand in a gradual controlled fashion by the bleeding of air back into the tube.

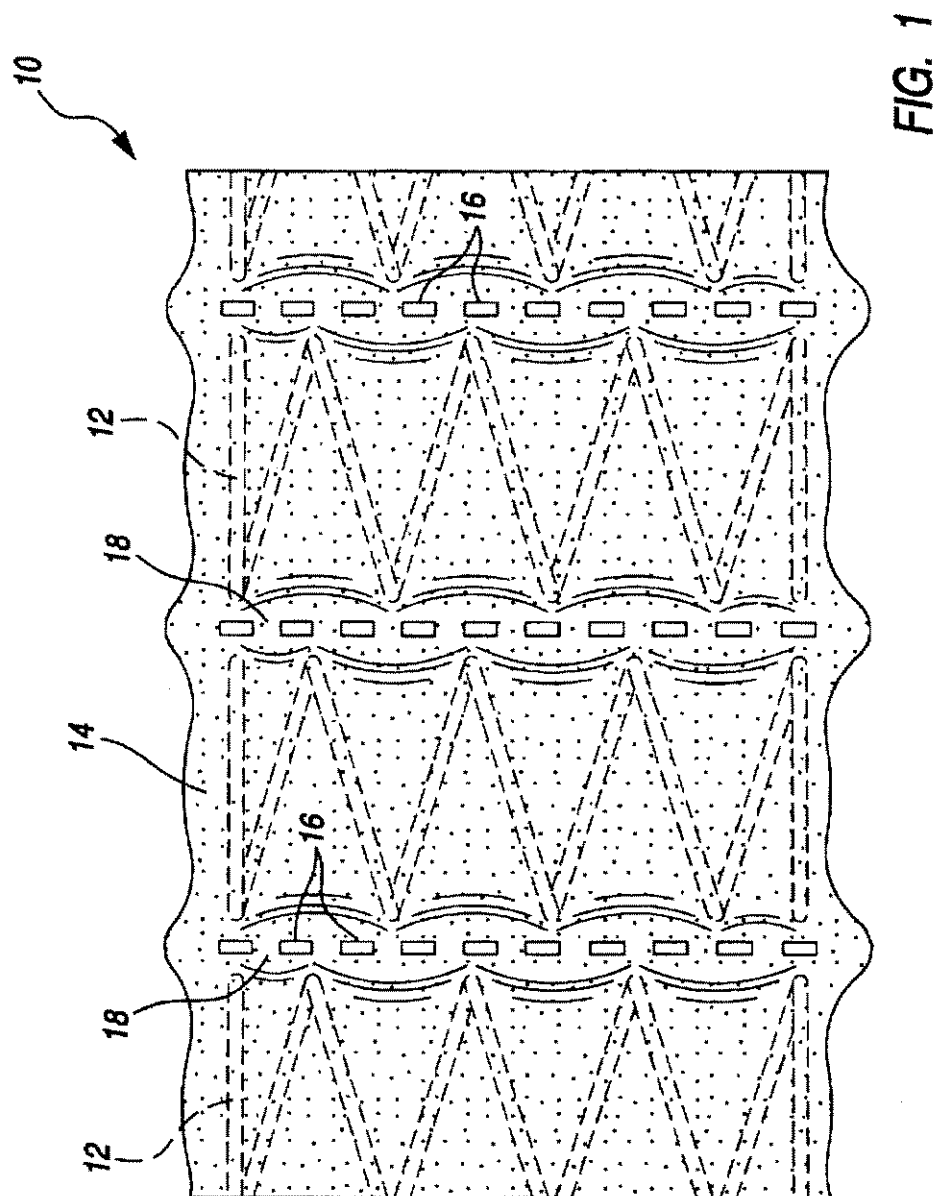
9 Claims, 3 Drawing Sheets

U.S. Patent

Mar. 16, 1999

Sheet 1 of 3

Re. 36,142



U.S. Patent

Mar. 16, 1999

Sheet 2 of 3

Re. 36,142

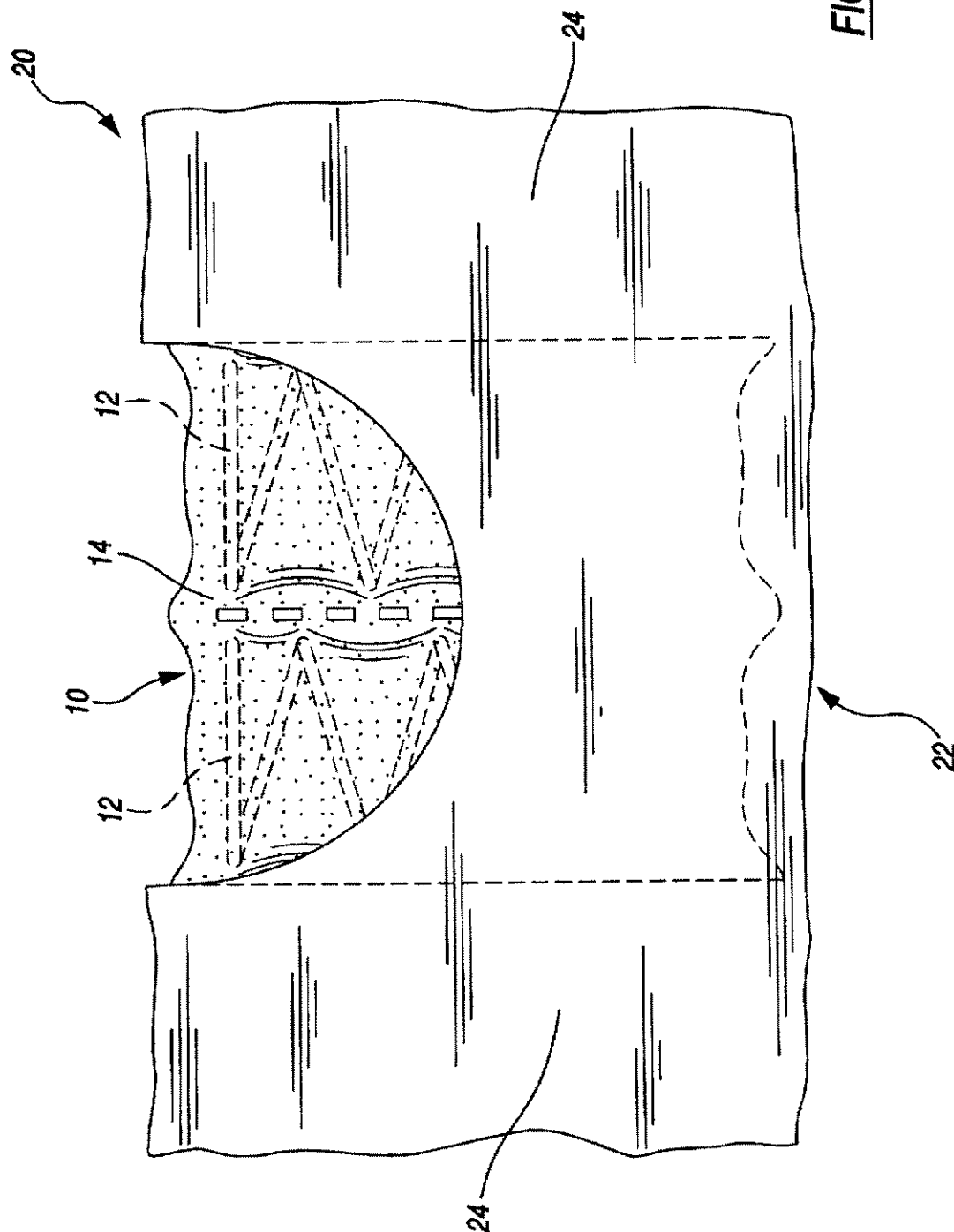


FIG. 2

U.S. Patent

Mar. 16, 1999

Sheet 3 of 3

Re. 36,142

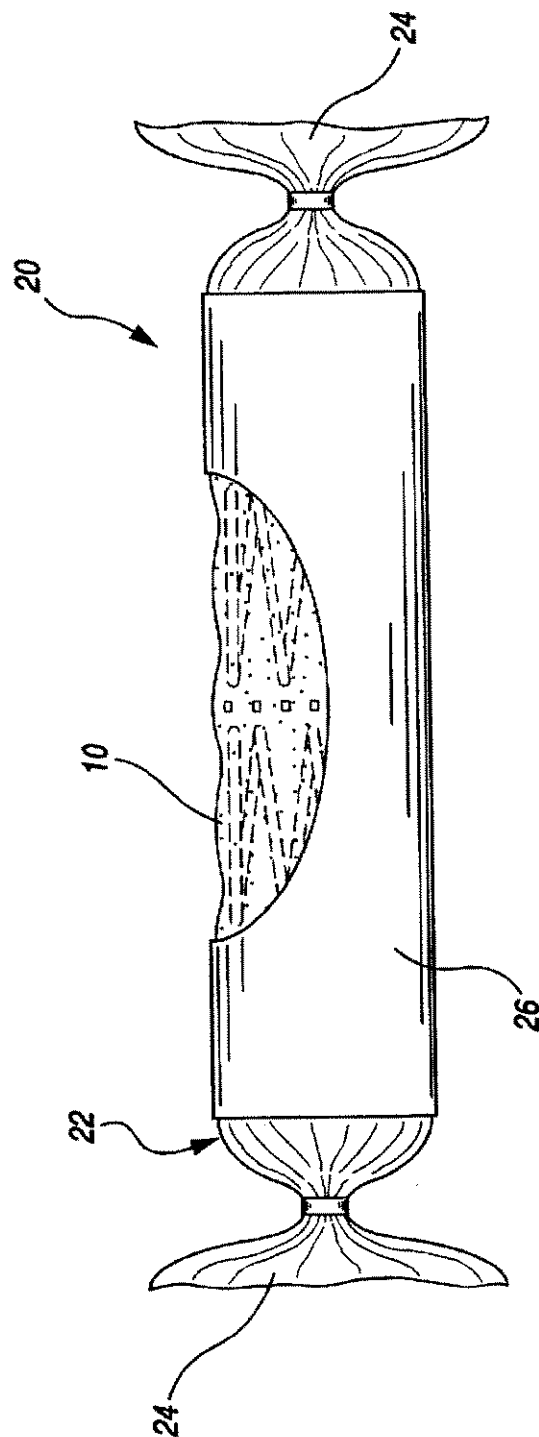


FIG. 3

Re. 36,142

1

METHOD OF PACKAGING RESILIENTLY COMPRESSIBLE ARTICLES

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

This application is a reissue application of Ser. No. 08/694,803 filed on Aug. 9, 1996 now U.S. Pat. No. 5,622,030 which is a continuation of application Ser. No. 08/416,065 filed on Apr. 4, 1995 abandoned.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to a method of packaging resiliently compressible articles and, more particularly, to a method wherein compressible articles can be conveniently packaged for shipment in a compressed state and can be unpackaged at their destination in a controlled manner.

2. Description of the Prior Art

Many articles of manufacture are lightweight and bulky and cannot be delivered to the consumer without an undesirably high cost associated with shipment. Often these articles are also inexpensive to manufacture but their cost to the consumer necessarily reflects a disproportionately high component of shipping charges, thereby adversely affecting the perceived value of the article to the consumer. One such article whose cost of shipment is undesirably high as compared to its manufactured cost is an innerspring component of a typical mattress, cushion or the like.

In standard mattress construction, for example, an innerspring assembly is used comprising an arrangement of closely packed coil springs. One form of innerspring construction which has proved to be highly successful is known as the Marshall construction. In this construction, individual coil springs are encapsulated in discrete pockets of fabric material with the pockets of fabric material formed together to create strings of coils. These strings of coils are then arranged in an array with the coil springs all oriented parallel to one another, thereby forming an innerspring assembly. An example of such construction is disclosed in U.S. Pat. No. 4,234,983, issued to Stumpf and assigned to the common assignee herein, the disclosure of which is expressly incorporated hereby by reference.

In order to construct a mattress assembly which provides adequate support yet is comfortable to the user, the springs used in the foregoing construction characteristically have such few coil turns and have such relatively weak compressive strength that they can be readily compressed to a size on the order of one-tenth their naturally expanded size. Accordingly, strings of coils of the foregoing type are lightweight and considerably bulky.

Recently, a new construction of mattress has been developed which is capable of being disassembled to knocked down form for convenient shipment to customers or retail outlets. Such a knock down mattress is disclosed in co-pending U.S. patent application Ser. No. 08/398,227 filed Mar. 3, 1995, assigned to the common assignee herein. This construction comprises four bolsters each having a generally rectangular cross section and dimensioned to be arranged in a mattress outline. The bolsters are retained within a shell having a bottom panel, perimeter side panels and a zippered cover panel. Each bolster comprises a fabric casing which contains lengths of pocketed spring coils.

The aforesaid mattress assembly, because of its knock down construction, can be shipped in a highly economical

2

manner by comparison to conventional unitary mattress structures. The components of this mattress can be assembled into packages of very manageable size for shipment. However, it is desirable to provide a packaging method which further reduces the size of the packaging. To this end, vacuum packaging of the coil springs may be employed wherein the strings of coils are compressed within an initially evacuated plastic tube and retained in a compressed state by a containment sleeve fitted over the tube as the vacuum source is removed.

Because conventional springs of the pocketed coil type can be compressed significantly from their naturally extended state, substantial reductions in size of packaging for such springs can be achieved by vacuum packaging methods. However, a disadvantage of using known vacuum packaging methods to provide a compressed package of springs is that once the vacuum source is removed from the inner tube, the springs are entirely dependent upon the presence of the outer containment sleeve for retaining their compressed condition. Thus, once the containment sleeve is severed, such as in opening of the package, the springs can expand to their fully extended state in an uncontrolled and somewhat abrupt manner. The result is that opening of the spring package by severing the containment sleeve with a sharp instrument, for example, can be a surprising and possibly dangerous experience. Accordingly, it is desirable to provide a vacuum packaging method for packaging springs in a manner which permits controlled expansion of the springs upon opening of the package.

SUMMARY OF THE INVENTION

The present invention improves over the prior art by providing a method of packaging a resiliently compressible article comprising the steps of inserting the article into a tube of deformable material such that excess material is provided at the ends of the tube. A first end of the tube is then sealed closed. Air is then evacuated from the tube through the second end thereby deforming the tube around the article and causing the article to compress. While a vacuum is maintained in the tube, the second end of the tube is sealed closed. A containment sleeve is fitted over the sealed tube to maintain the article in a compressed state. When the article is unpackaged, the containment sleeve is severed and the tube is allowed to expand in a gradual, controlled fashion by the bleeding of air back into the tube.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other novel features of the invention will become apparent upon a reading of the following detailed description taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a fragmentary side elevational view of a string of pocketed coil springs as known in the prior art;

FIG. 2 is a side elevational view partly broken away showing a packaging system in accordance with the invention prior to evacuation; and

FIG. 3 is a side elevational view partly broken away showing the packaging system after evacuation.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and initially to FIG. 1, a string of coil springs, as known in the art for use in innerspring construction of mattresses or the like is designated generally by the reference numeral 10. The coil string

Re. 36,142

3

10 includes individual coil springs 12 which are encapsulated in discrete pockets of suitable fabric 14. The fabric 14 is preferably heat sensitive such that ultrasonically formed welds 16 create webs 18 between adjacent coils 12 thereby defining the pockets. It can be appreciated that in this construction of a mattress innerspring or the like, the coil springs 12 are typically formed of relatively few coil turns and relatively weak compressive strength. Accordingly, these springs 12 can readily be compressed to a size which is only a fraction of their naturally expanded size.

Turning now to FIG. 2, a package system in accordance with the invention is designated generally by the reference numeral 20. The system 20 is shown as packaging a string of coil springs 10 of the type illustrated in FIG. 1, comprising coil springs 12 which are pocketed in fabric 14. The string 10 is inserted into a tube of deformable material 22. In preferred form, this material 22 is $\frac{3}{4}$ mil polyethylene which has been extruded into tubular form and is supplied in roll form. The tube 22 has a length greater than the length of the coil string 10 such that the two ends of the tube 22 define portions 24 of excess tube material 22.

Illustrated in FIG. 3 is the package system 20 shown in completed form, wherein the coil string 10 has been compressed and is maintained in a compressed state by a containment sleeve 26. Preferably, the containment sleeve 26 is an extruded tube of 4 mil polyethylene. In order to achieve the configuration of FIG. 3, one end 24 of the tube 22 is gathered and sealed. Sealing can be accomplished by various means including taking the gathered end 24, taping it closed, pinching the end 24 with a suitable clip or cable tie, or heat sealing the end 24. Then, the open end is manually gathered around a hose connected to a vacuum pump and the air within the tube 22 is evacuated. Evacuation of the tube 22 causes the tube to deform around the string of coils 10 and in turn causes the coils 10 to compress. When evacuation has reached a predetermined level, the containment sleeve 26 is installed over the compressed tube 22 and the second end 24 of the tube [is] may be sealed. The vacuum source is then removed.

It can now be appreciated that the packaging method in accordance with the invention provides a highly desirable method for packaging articles which are resiliently compressible. Although the invention has been described in connection with the packaging of coil string 10, it can be appreciated that numerous other compressible articles can be packaged with the present method for cost-effective shipment. The advantages of sealing the tube 22 at both ends 24 after evacuation should likewise be apparent. When the package 20 is delivered, the customer can sever the containment sleeve 26 and initially the tube 22 together with the article encapsulated therein will remain relatively compressed under the effect of the vacuum within the tube 22. Then, depending upon the type of end 24 sealing method used, air will gradually bleed into the tube 22 allowing the compressed article to slowly expand until the inside of the tube 22 reaches ambient air pressure. Accordingly, an undesirable, abrupt expansion of the tube 22 is avoided. If a sealing method is used which is too air tight, the tube 22 can simply be punctured with a small hole to allow air to enter the evacuated tube 22. By this method of packaging, strings 10 of pocketed coil springs 12 stacked 23 inches high can readily be compressed to a stack 5 inches high and, thereby, can be packaged for cost-effective shipment.

While the present invention has been described in connection with a preferred embodiment thereof, it will be apparent to those skilled in the art that many changes and modifications may be made without departing from the true

4

spirit and scope of the invention. Accordingly, it is intended by the appended claims to cover all such changes and modifications as come within the true spirit and scope of the invention.

What is claimed is:

1. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;
inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;
sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

[sealing said second end of said tube after evacuating said tube to a predetermined state;]

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; [and

puncturing said evacuated tube to allow] whereby said mattress assembly in said tube [to] gradually [return] returns to an uncompressed state.

2. The method of claim 1 wherein said first end of said tube is sealed after gathering the excess material of said first end.

3. The method of claim 1 wherein said evacuating step includes gathering said second end of said tube around a vacuum, evacuating means.

4. The method of claim 1 wherein said tube is cut to said predetermined length from a continuous length of tube material.

5. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;

sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

sealing said second end of said tube after evacuating said tube to a predetermined state;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state.

Re. 36,142

5

6. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;

sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

sealing said second end of said tube while said tube is being evacuated to a predetermined state;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state.

7. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;

sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

6

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state; and

said evacuated tube is punctured to allow said mattress assembly in said tube to gradually return to said uncompressed state.

8. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;

sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve;

allowing said mattress assembly in said tube to gradually return to an uncompressed state; and

said containment sleeve is severed to allow said mattress assembly in said tube to gradually return to said uncompressed state.

9. The method of claim 1 wherein said evacuated tube inserted into said containment sleeve is allowed to expand within said containment sleeve.

* * * * *

EXHIBIT B

CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT

THIS AGREEMENT, made as of May 30th, 2007 between **Zinus Inc (ZINUS)**, having its principal office at 7068 Koll Center Parkway, Suite 425, Pleasanton, California 94566, and Simmis Company (RECIPIENT), having its principal office at One Concourse Parkway, Atlanta, GA. USA.

WHEREAS, ZINUS has certain proprietary products and intellectual property constituting legally protected confidential information and desires to share such confidential information with RECIPIENT, and RECIPIENT desires to receive such information; and

WHEREAS, ZINUS is providing RECIPIENT with such information for the purpose of RECIPIENT helping ZINUS with the Sales and distribution of its products, whereby RECIPIENT could become a service provider to ZINUS (the "Transaction"). For purposes of this agreement, RECIPIENT shall include RECIPIENT and any subsequent signatories to this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth and other good and valuable consideration, the parties hereto agree as follows:

1. CONFIDENTIALITY AND NON-DISCLOSURE. RECIPIENT understands and acknowledges that it will have, upon execution of this Agreement and delivery by ZINUS, access to secret and confidential information of ZINUS including, but not limited to, proprietary products, plans, designs, market and sales strategies, business methods and unique servicing techniques and other information not available to the general public (all of which is hereinafter referred to as "Confidential Information") which is maintained as secret and confidential by ZINUS. Accordingly, RECIPIENT agrees:

(a) That all Confidential Information provided by ZINUS to RECIPIENT is and shall remain the property of ZINUS, at all times whatsoever, and that such Confidential Information will not be used by RECIPIENT other than as authorized by ZINUS in connection with the Transaction, and will be kept confidential by RECIPIENT, its agents and employees, and shall not, except as hereinafter provided, without the prior written consent of ZINUS, be disclosed by RECIPIENT, its agents or employees, in any manner whatsoever, in whole or in part. Moreover, RECIPIENT further agrees to transmit Confidential Information only to its directors, officers and agents who need to know such information for the purpose of evaluating the Transaction and who shall (i) be advised by RECIPIENT of this Agreement, and (ii) agree ~~in writing~~ to be bound by the provisions of this Agreement. RECIPIENT agrees to use its best efforts to prevent the publication or disclosure of the Confidential Information and RECIPIENT shall secure and safeguard all Confidential Information.

(b) RECIPIENT will not disclose to any ~~person~~ third party any of the terms, conditions or material information with respect to the Transaction, including the status thereof without the express written consent of ZINUS. On the earlier of termination of this Agreement or Company's written request,

RECIPIENT shall cease use of the Confidential Information and deliver to ZINUS the Confidential Information without retaining any copies thereof.

(c) The term "Confidential Information" does not include information which (i) becomes generally available to the public other than as a result of a disclosure by ZINUS or its representatives, (ii) was available to RECIPIENT on a non-confidential basis prior to its disclosure to RECIPIENT by ZINUS, (iii) becomes available to RECIPIENT on a non-confidential basis from a source other than ZINUS or its representatives, (provided, however, that such source is not bound by a confidentiality agreement with ZINUS), or (iv) is independently developed by RECIPIENT without use of Confidential Information.

2. DISCLOSURE. Disclosure of Confidential Information is not prohibited if such disclosure is compelled pursuant to a legal proceeding or otherwise required by law and the RECIPIENT give ZINUS prior notice of disclosure.

3. REMEDIES. RECIPIENT acknowledges that any breach of this Agreement will result in irreparable harm to ZINUS for which damages would be an inadequate remedy and therefore, in the event of such breach, in addition to its rights and remedies otherwise available at law, ZINUS shall be entitled to equitable relief, including injunction.

4. TERM. RECIPIENT agrees that this agreement shall remain in effect for a period of one (1) year from the date of receipt of any proprietary and confidential information.

5. AMENDMENT. This Agreement may be supplemented, amended, or modified only by the mutual agreement of the parties. No supplement, amendment, or modification of this Agreement will be binding unless it is in writing and signed by both parties.

6. SUCCESSORS. This Agreement will inure to the benefit of and be binding on the successors and assigns of RECIPIENT and ZINUS.

7. MISCELLANEOUS.

(a) This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of California.

(b) The waiver by ZINUS of a breach by RECIPIENT of any provision of this Agreement shall not constitute a waiver by ZINUS of any future breach, nor shall ZINUS by any such waiver be prohibited from enforcing any and all rights and remedies provided by this Agreement.

(c) If any term, covenant or condition of this Agreement shall to any extent be determined to be invalid or unenforceable, the remainder thereof shall not be affected, and every other term, covenant or condition of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

(d) This Agreement and the rights, obligations or duties of RECIPIENT hereunder shall not be assignable without the prior written consent of ZINUS.

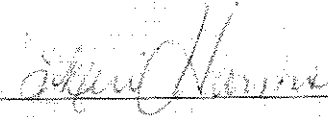
IN WITNESS WHEREOF, this Agreement was executed as of the day and year first above written.

Zinus Inc

By: 

Name: T.P. Lee

Title: CEO

By: 

Name (print): Shari Harmon

Title: Director Supply Chain

By: _____

Name: _____

Title: _____

By: _____

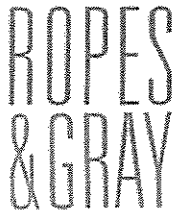
Name (print): _____

Title: _____

ADDITIONAL SIGNORS:

Date	Name
_____	_____
Date	Name
_____	_____
Date	Name
_____	_____
Date	Name
_____	_____

EXHIBIT C



FISH & NEAVE IP GROUP

ROPE & GRAY LLP

ONE INTERNATIONAL PLACE BOSTON, MA 02110-2624 617-951-7000 F 617-951-7050
BOSTON NEW YORK PALO ALTO SAN FRANCISCO WASHINGTON, DC www.ropesgray.com

May 18, 2007

Edward J. Kelly
(617)951-7532
ekelly@ropesgray.com

Via Certified Mail

Zinus Inc.
7068 Koll Center Parkway Suite 425
Pleasanton, CA 94566

Re: Trademark Infringement of Pocket Coil® Mark and
Patent Infringement of U.S. Patent Re 36,142

Dear Sir or Madam:

I write to you on behalf of Dreamwell, Ltd. ("Dreamwell"), a wholly-owned subsidiary of Simmons Bedding Company ("Simmons"), which is one of the world's largest manufacturers of bedding products.

Dreamwell is dedicated to the effective management of its intellectual property assets, including our important patented technologies and our famous and registered brands such as *Beautyrest®*, *BackCare®*, and *Deep Sleep®*.

It has come to our attention that your company is selling and offering for sale a *Mattress-in-a-Box* product, including the *Sleep Revolution Mattress-in-a-Box* product, which is available from Wal-Mart Stores, Inc. (the "Mattress-in-a-Box" Product").

This Mattress-in-a-Box Product appropriates our patented technology. In particular, the Mattress-in-a-Box Product is an innerspring mattress inserted into a tube of plastic material. That tube is sealed at one end and the mattress is vacuum compressed within the tube. A sleeve is fitted over the compressed mattress, to be removed later by the customer.

ROPES & GRAY LLP

Zinus, Inc.

May 18, 2007

Page 2

At this time we direct your attention to U.S. Patent Re. 36,142, a copy of which is enclosed. In particular, we ask that you review claim 1 of that patent. As you will see, the Mattress-in-a-Box Product is the very subject matter of claim 1 of our U.S. Patent Re. 36,142.

A further problem for Dreamwell is that this Mattress-in-a-Box Product is marketed on your company's website under one of our famous marks, the Dreamwell *Pocket Coil*® mark for mattresses and box springs. This trademark identifies Dreamwell's proprietary brand for Marshall coils or encased coils. Such coils, among other things, separate each spring by wrapping or encasing the spring in a fabric sheath. Dreamwell's *Pocket Coil*® technology reduces motion transfer and provides comfort, support, and durability. In connection with the *Pocket Coil*® mark and related brands, which represents considerable consumer goodwill built up through continuous use since 1926, Dreamwell owns U.S. Trademark Registration Nos. 2,304,404, 2,478,738, 2,912,053 and 2,146,996 for the marks *Pocket Coil*®, *Pocketed Coil*®, *Super Pocketed Coil*®, and *Beautyrest Pocketed Coil*®, respectively.

Your company's website displays a circular logo that sets out our *Pocket Coil*® mark as stylized text appearing within the body of the logo. Please see the attached image. This misuse of our *Pocket Coil*® mark will confuse the public and dilute our mark by improperly diminishing its distinctiveness. This infringement of the *Pocket Coil*® mark causes confusion as to the origin of your product and Dreamwell's authorization and endorsement of your product. This constitutes unlawful infringement in violation of federal and state laws and has caused, and will cause, Dreamwell to suffer irreparable harm.

This Mattress-in-a-Box Product has damaged both Dreamwell and its licensee Simmons and we need to prevent further damage.

To that end, we demand that Zinus, Inc. cease and desist from the sale, offer for sale and manufacture of any product that infringes our U.S. Patent Re. 36,412. We further demand that Zinus, Inc. provide us with an accounting of all sales of Mattress-in-a-Box Products that have occurred within the United States, in order for Dreamwell to determine the monetary damages due for infringing sales.

Further, your company's distribution of any product under our *Pocket Coil*® mark must now cease as it violates federal and state laws and will cause Dreamwell irreparable harm. In contrast, the use of the non-infringing, generic terms such as encased coil or Marshall coil to describe spring technology will eliminate the confusion as to the origin of your product.

Additionally, Dreamwell demands that, within 60 days of receipt of this letter, Zinus, Inc. certify that, to the extent you refer to Marshall coils on the products you distribute, on your

ROPES & GRAY LLP

Zinus, Inc.
May 18, 2007
Page 3

website or in your advertising or promotional materials, you will refer to them by a non-infringing, generic description such as Marshall coil or encased coil.

Due to the serious nature of these matters and the continued irreparable harm to Dreamwell and Dreamwell's licensee, Simmons, please confirm in writing your receipt of this letter and your company's commitment to cease and desist the sale of infringing product and all use of the *Pocket Coil*® mark no later than **June 1, 2007**.

If you have any questions regarding this matter, you may contact me at (617) 951-7532. Please also send all correspondence and the demanded information to me at the above given address.

Sincerely,

A handwritten signature in black ink, appearing to read "Ed J. Kelly", with a large, stylized loop at the end.

Edward J. Kelly

EJK/dcc
Enclosures

cc: Kristen McGuffey, Esq.
Agnes Lee, Esq.
Clara DeQuick, Esq.



US00RE36142E

United States Patent [19]
Steed et al.

[11] E

Patent Number: Re. 36,142[45] **Reissued Date of Patent: Mar. 16, 1999**

[54] **METHOD OF PACKAGING RESILIENTLY
 COMPRESSIBLE ARTICLES**

3,585,700 6/1971 Jansson 53/436

3,611,524 10/1971 Broyles 53/432

4,234,983 11/1980 Stumpf .

[75] Inventors: C. Edward Steed, Alpharetta; Ricky F.
 Gladney, Fairburn, both of Ga.

4,575,990 3/1986 von Bismarck 53/469

4,854,023 8/1989 Stumpf 53/114

[73] Assignee: **Simmons Company, Atlanta, Ga.**

[21] Appl. No.: **919,655**

[22] Filed: **Aug. 28, 1997**

Primary Examiner—James F. Coan

Assistant Examiner—Gene L. Kim

Attorney, Agent, or Firm—Jones, Day, Reavis & Pogue

Related U.S. Patent Documents

Reissue of:

[64] Patent No.: **5,622,030**

Issued: **Apr. 22, 1997**

Appl. No.: **694,803**

Filed: **Aug. 9, 1996**

U.S. Applications:

[63] Continuation of Ser. No. 416,065, Apr. 4, 1995, abandoned.

[51] Int. Cl.⁶ **B65B 1/24**

[52] U.S. Cl. **53/436; 53/524; 53/528;**
53/114

[58] Field of Search **53/432, 436, 469,**
53/399, 114, 524, 528

[56] **References Cited**

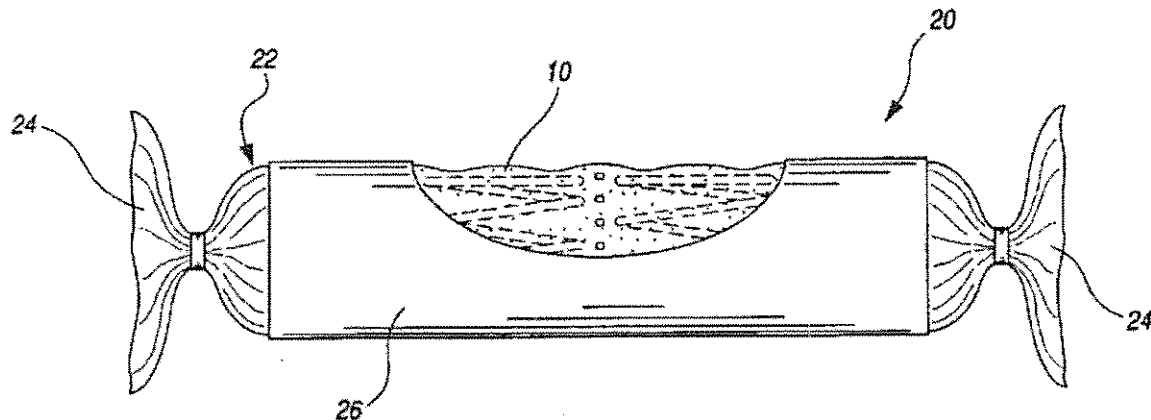
U.S. PATENT DOCUMENTS

1,861,429 5/1932 Schneider et al. 53/114

[57] ABSTRACT

A method of packaging a resiliently compressible article comprises the steps of inserting the article into a tube of deformable material such that excess material is provided at the ends of the tube. A first end of the tube is then sealed closed. Air is then evacuated from the tube through the second end thereby deforming the tube around the article and causing the article to compress. While a vacuum is maintained in the tube, the second end of the tube is sealed closed. A containment sleeve is fitted over the sealed tube to maintain the article in a compressed state. When the article is unpackaged, the containment sleeve is severed and the tube is allowed to expand in a gradual controlled fashion by the bleeding of air back into the tube.

9 Claims, 3 Drawing Sheets



U.S. Patent

Mar. 16, 1999

Sheet 1 of 3

Re. 36,142

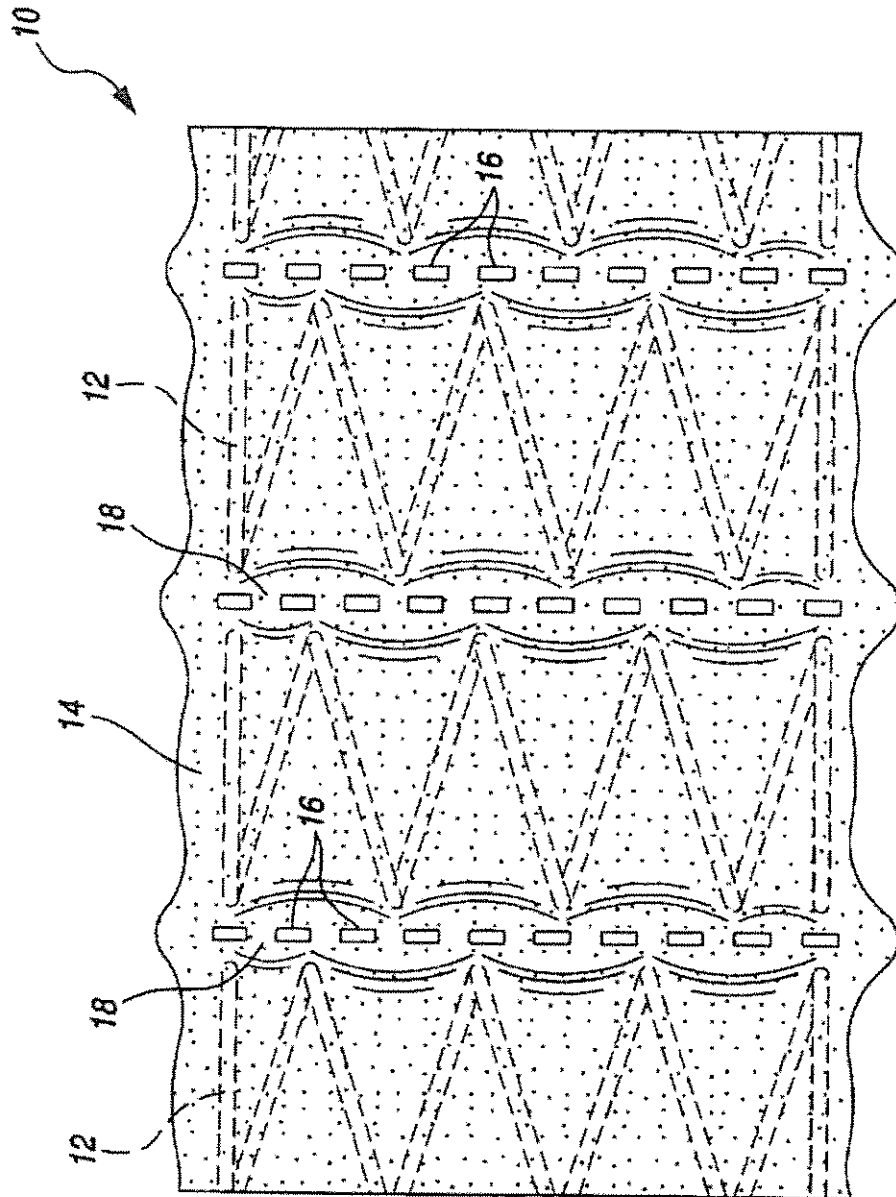


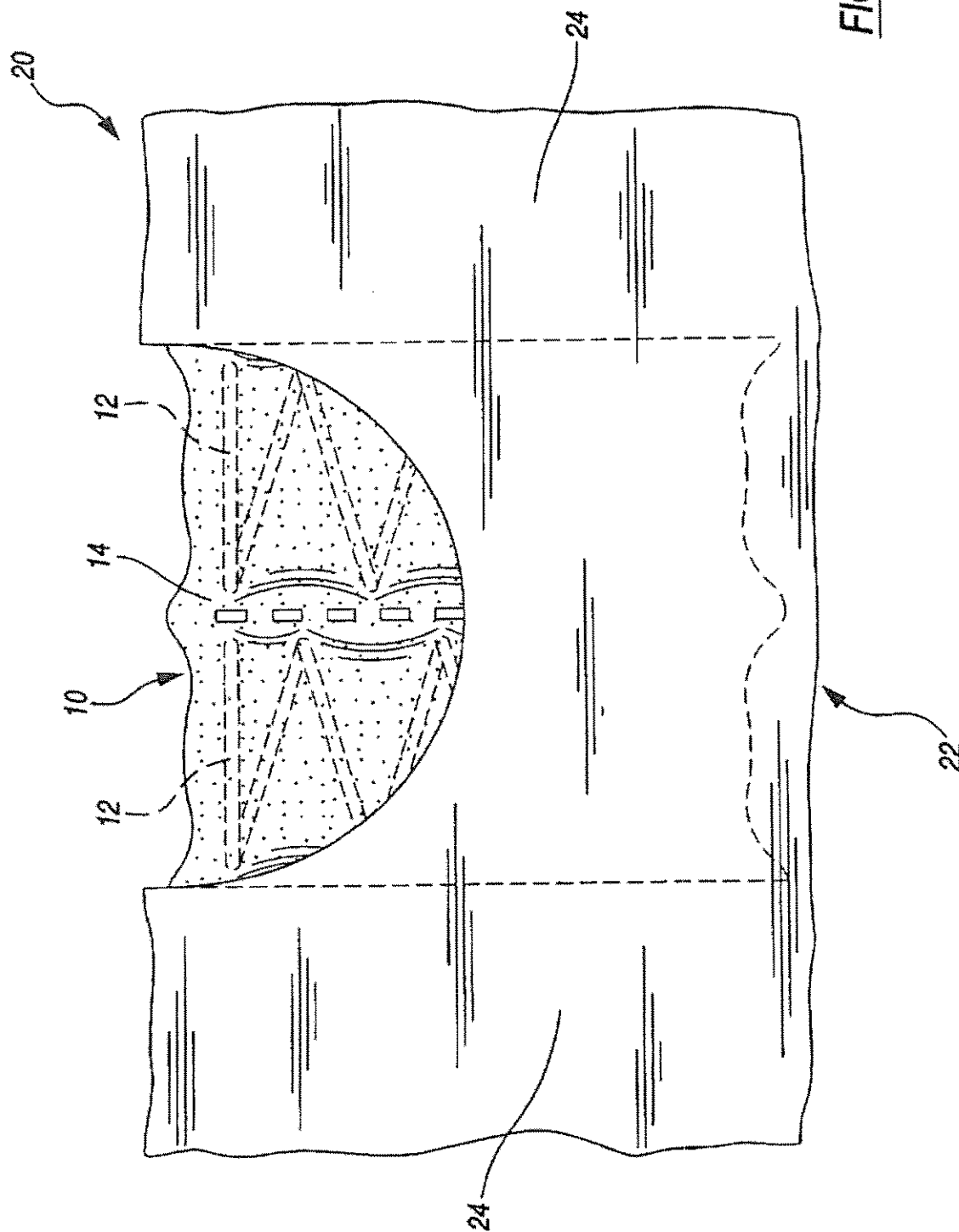
FIG. 1

U.S. Patent

Mar. 16, 1999

Sheet 2 of 3

Re. 36,142



U.S. Patent

Mar. 16, 1999

Sheet 3 of 3

Re. 36,142

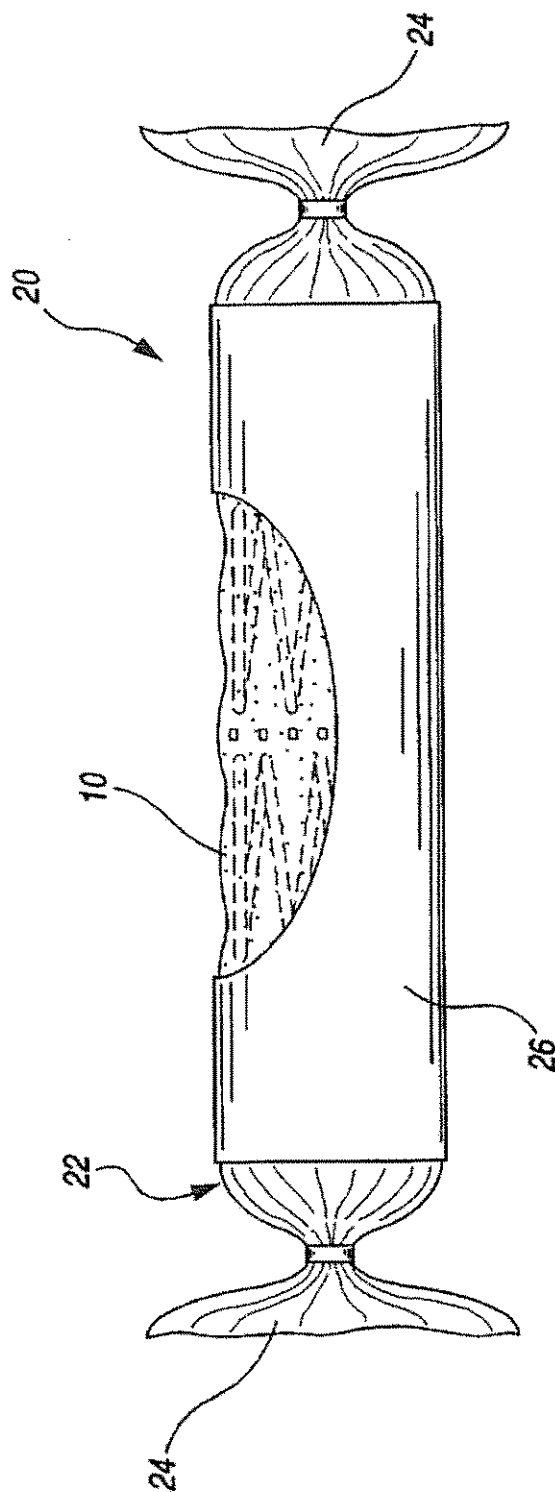


FIG. 3

Re. 36,142

1

METHOD OF PACKAGING RESILIENTLY COMPRESSIBLE ARTICLES

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

This application is a reissue application of Ser. No. 08/694,803 filed on Aug. 9, 1996 now U.S. Pat. No. 5,622,030 which is a continuation of application Ser. No. 08/416,065 filed on Apr. 4, 1995 abandoned.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to a method of packaging resiliently compressible articles and, more particularly, to a method wherein compressible articles can be conveniently packaged for shipment in a compressed state and can be unpackaged at their destination in a controlled manner.

2. Description of the Prior Art

Many articles of manufacture are lightweight and bulky and cannot be delivered to the consumer without an undesirably high cost associated with shipment. Often these articles are also inexpensive to manufacture but their cost to the consumer necessarily reflects a disproportionately high component of shipping charges, thereby adversely affecting the perceived value of the article to the consumer. One such article whose cost of shipment is undesirably high as compared to its manufactured cost is an innerspring component of a typical mattress, cushion or the like.

In standard mattress construction, for example, an innerspring assembly is used comprising an arrangement of closely packed coil springs. One form of innerspring construction which has proved to be highly successful is known as the Marshall construction. In this construction, individual coil springs are encapsulated in discrete pockets of fabric material with the pockets of fabric material formed together to create strings of coils. These strings of coils are then arranged in an array with the coil springs all oriented parallel to one another, thereby forming an innerspring assembly. An example of such construction is disclosed in U.S. Pat. No. 4,234,983, issued to Stumpf and assigned to the common assignee herein, the disclosure of which is expressly incorporated hereby by reference.

In order to construct a mattress assembly which provides adequate support yet is comfortable to the user, the springs used in the foregoing construction characteristically have such few coil turns and have such relatively weak compressive strength that they can be readily compressed to a size on the order of one-tenth their naturally expanded size. Accordingly, strings of coils of the foregoing type are lightweight and considerably bulky.

Recently, a new construction of mattress has been developed which is capable of being disassembled to knocked down form for convenient shipment to customers or retail outlets. Such a knock down mattress is disclosed in co-pending U.S. patent application Ser. No. 08/398,227 filed Mar. 3, 1995, assigned to the common assignee herein. This construction comprises four bolsters each having a generally rectangular cross section and dimensioned to be arranged in a mattress outline. The bolsters are retained within a shell having a bottom panel, perimeter side panels and a zippered cover panel. Each bolster comprises a fabric casing which contains lengths of pocketed spring coils.

The aforesaid mattress assembly, because of its knock down construction, can be shipped in a highly economical

2

manner by comparison to conventional unitary mattress structures. The components of this mattress can be assembled into packages of very manageable size for shipment. However, it is desirable to provide a packaging method which further reduces the size of the packaging. To this end, vacuum packaging of the coil springs may be employed wherein the strings of coils are compressed within an initially evacuated plastic tube and retained in a compressed state by a containment sleeve fitted over the tube as the vacuum source is removed.

Because conventional springs of the pocketed coil type can be compressed significantly from their naturally extended state, substantial reductions in size of packaging for such springs can be achieved by vacuum packaging methods. However, a disadvantage of using known vacuum packaging methods to provide a compressed package of springs is that once the vacuum source is removed from the inner tube, the springs are entirely dependent upon the presence of the outer containment sleeve for retaining their compressed condition. Thus, once the containment sleeve is severed, such as in opening of the package, the springs can expand to their fully extended state in an uncontrolled and somewhat abrupt manner. The result is that opening of the spring package by severing the containment sleeve with a sharp instrument, for example, can be a surprising and possibly dangerous experience. Accordingly, it is desirable to provide a vacuum packaging method for packaging springs in a manner which permits controlled expansion of the springs upon opening of the package.

SUMMARY OF THE INVENTION

The present invention improves over the prior art by providing a method of packaging a resiliently compressible article comprising the steps of inserting the article into a tube of deformable material such that excess material is provided at the ends of the tube. A first end of the tube is then sealed closed. Air is then evacuated from the tube through the second end thereby deforming the tube around the article and causing the article to compress. While a vacuum is maintained in the tube, the second end of the tube is sealed closed. A containment sleeve is fitted over the sealed tube to maintain the article in a compressed state. When the article is unpackaged, the containment sleeve is severed and the tube is allowed to expand in a gradual, controlled fashion by the bleeding of air back into the tube.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other novel features of the invention will become apparent upon a reading of the following detailed description taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a fragmentary side elevational view of a string of pocketed coil springs as known in the prior art;

FIG. 2 is a side elevational view partly broken away showing a packaging system in accordance with the invention prior to evacuation; and

FIG. 3 is a side elevational view partly broken away showing the packaging system after evacuation.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and initially to FIG. 1, a string of coil springs, as known in the art for use in innerspring construction of mattresses or the like is designated generally by the reference numeral 10. The coil string

Re. 36,142

3

10 includes individual coil springs 12 which are encapsulated in discrete pockets of suitable fabric 14. The fabric 14 is preferably heat sensitive such that ultrasonically formed welds 16 create webs 18 between adjacent coils 12 thereby defining the pockets. It can be appreciated that in this construction of a mattress innerspring or the like, the coil springs 12 are typically formed of relatively few coil turns and relatively weak compressive strength. Accordingly, these springs 12 can readily be compressed to a size which is only a fraction of their naturally expanded size.

Turning now to FIG. 2, a package system in accordance with the invention is designated generally by the reference numeral 20. The system 20 is shown as packaging a string of coil springs 10 of the type illustrated in FIG. 1, comprising coil springs 12 which are pocketed in fabric 14. The string 10 is inserted into a tube of deformable material 22. In preferred form, this material 22 is $\frac{3}{4}$ mil polyethylene which has been extruded into tubular form and is supplied in roll form. The tube 22 has a length greater than the length of the coil string 10 such that the two ends of the tube 22 define portions 24 of excess tube material 22.

Illustrated in FIG. 3 is the package system 20 shown in completed form, wherein the coil string 10 has been compressed and is maintained in a compressed state by a containment sleeve 26. Preferably, the containment sleeve 26 is an extruded tube of 4 mil polyethylene. In order to achieve the configuration of FIG. 3, one end 24 of the tube 22 is gathered and sealed. Sealing can be accomplished by various means including taking the gathered end 24, taping it closed, pinching the end 24 with a suitable clip or cable tie, or heat sealing the end 24. Then, the open end is manually gathered around a hose connected to a vacuum pump and the air within the tube 22 is evacuated. Evacuation of the tube 22 causes the tube to deform around the string of coils 10 and in turn causes the coils 10 to compress. When evacuation has reached a predetermined level, the containment sleeve 26 is installed over the compressed tube 22 and the second end 24 of the tube [is] may be sealed. The vacuum source is then removed.

It can now be appreciated that the packaging method in accordance with the invention provides a highly desirable method for packaging articles which are resiliently compressible. Although the invention has been described in connection with the packaging of coil string 10, it can be appreciated that numerous other compressible articles can be packaged with the present method for cost-effective shipment. The advantages of sealing the tube 22 at both ends 24 after evacuation should likewise be apparent. When the package 20 is delivered, the customer can sever the containment sleeve 26 and initially the tube 22 together with the article encapsulated therein will remain relatively compressed under the effect of the vacuum within the tube 22. Then, depending upon the type of end 24 sealing method used, air will gradually bleed into the tube 22 allowing the compressed article to slowly expand until the inside of the tube 22 reaches ambient air pressure. Accordingly, an undesirable, abrupt expansion of the tube 22 is avoided. If a sealing method is used which is too air tight, the tube 22 can simply be punctured with a small hole to allow air to enter the evacuated tube 22. By this method of packaging, strings 10 of pocketed coil springs 12 stacked 23 inches high can readily be compressed to a stack 5 inches high and, thereby, can be packaged for cost-effective shipment.

While the present invention has been described in connection with a preferred embodiment thereof, it will be apparent to those skilled in the art that many changes and modifications may be made without departing from the true

4

spirit and scope of the invention. Accordingly, it is intended by the appended claims to cover all such changes and modifications as come within the true spirit and scope of the invention.

What is claimed is:

1. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;

sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

[sealing said second end of said tube after evacuating said tube to a predetermined state;]

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; [and

puncturing said evacuated tube to allow] whereby said mattress assembly in said tube [to] gradually [return] returns to an uncompressed state.

2. The method of claim 1 wherein said first end of said tube is sealed after gathering the excess material of said first end.

3. The method of claim 1 wherein said evacuating step includes gathering said second end of said tube around a vacuum, evacuating means.

4. The method of claim 1 wherein said tube is cut to said predetermined length from a continuous length of tube material.

5. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;

sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

sealing said second end of said tube after evacuating said tube to a predetermined state;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state.

Re. 36,142

5

6. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material; sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

sealing said second end of said tube while said tube is being evacuated to a predetermined state;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state.

7. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material; sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

6

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state; and

said evacuated tube is punctured to allow said mattress assembly in said tube to gradually return to said uncompressed state.

8. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;

sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve;

allowing said mattress assembly in said tube to gradually return to an uncompressed state; and

said containment sleeve is severed to allow said mattress assembly in said tube to gradually return to said uncompressed state.

9. The method of claim 1 wherein said evacuated tube inserted into said containment sleeve is allowed to expand within said containment sleeve.

* * * * *

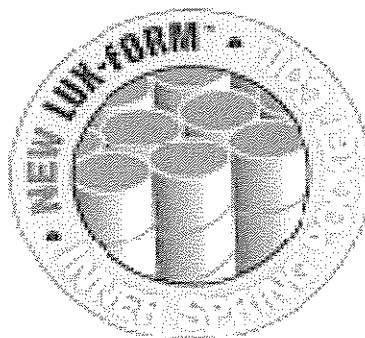


EXHIBIT D



FISH & NEAVE IP GROUP

ROPES & GRAY LLP

ONE INTERNATIONAL PLACE BOSTON, MA 02110-2624 617-951-7000 F 617-951-7050
BOSTON NEW YORK PALO ALTO SAN FRANCISCO WASHINGTON, DC www.ropesgray.com

May 18, 2007

Edward J. Kelly
617-951-7532
617-235-0703 fax
Edward.Kelly@ropesgray.com

Via Certified Mail

Thomas A. Mars
Executive Vice President and General Counsel
Wal-Mart Stores, Inc.
Bentonville, AR 72716-8611

Re: Patent Infringement of U.S. Patent Re. 36,142 and
Trademark Infringement of Pocket Coil® Mark

Dear Mr. Mars:

I write to you on behalf of Dreamwell, Ltd. ("Dreamwell"), a wholly-owned subsidiary of Simmons Bedding Company ("Simmons"), which is one of the world's largest manufacturers of bedding products.

Like Wal-Mart Stores, Inc. ("Wal-Mart"), Dreamwell is dedicated to the effective management of its intellectual property assets, including our important patented technologies and our famous and registered brands such as *Beautyrest®*, *BackCare®*, and *Deep Sleep®*.

It has come to our attention that Wal-Mart is marketing and distributing a *Mattress-in-a-Box* product manufactured by Zinus, Inc. of Pleasanton, California. These mattresses include the *Sleep Revolution Mattress-in-a-Box* product, which includes an inner spring mattress that is compressed in size and then packaged within a cardboard box (the "Zinus Product").

We are concerned that this Zinus Product appropriates our patented technology. In particular, the Zinus Product is an innerspring mattress inserted into a tube of plastic material. That tube is sealed at one end and the mattress is vacuum compressed within the tube. A sleeve is fitted over the compressed mattress, to be removed later by the customer.

At this time we draw your attention to U.S. Patent Re. 36,142, a copy of which is enclosed. In particular, we ask that you review claim 1 of that patent. As you will see, the Zinus Product is the very subject matter of claim 1 of our U.S. Patent Re. 36,142.

ROPES & GRAY LLP

Thomas A. Mars
Executive Vice President and General Counsel
Wal-Mart Stores, Inc.

- 2 -

May 18, 2007

Further troubling to Dreamwell is that this Zinus Product is marketed by Wal-Mart under one of our famous marks, the Dreamwell *Pocket Coil*® mark for mattresses and box springs. This trademark identifies Dreamwell's proprietary brand for Marshall coils or encased coils. Such coils, among other things, separate each spring by wrapping or encasing the spring in a fabric sheath. Dreamwell's *Pocket Coil*® technology reduces motion transfer and provides comfort, support, and durability. In connection with the *Pocket Coil*® mark and related brands, which represents considerable consumer goodwill built up through continuous use since 1926, Dreamwell owns U.S. Trademark Registration Nos. 2,304,404, 2,478,738, 2,912,053 and 2,146,996 for the marks *Pocket Coil*®, *Pocketed Coil*®, *Super Pocketed Coil*®, and *Beautyrest Pocketed Coil*®, respectively.

The sample Zinus Product that we purchased from Wal-Mart includes packaging that sets out the phrase *Mattress-in-a-Box* in a stylized font and directly below that phrase the packaging displays our *Pocket Coil*® mark. Please see the attached image. This misuse of our *Pocket Coil*® mark will confuse the public and dilute our marks by improperly diminishing their distinctiveness. This infringement of the *Pocket Coil*® mark causes confusion as to the origin of your product and Dreamwell's authorization and endorsement of your product. This constitutes unlawful infringement in violation of federal and state laws and has caused, and will cause, Dreamwell to suffer irreparable harm.

Wal-Mart's sale of this Zinus Product has damaged both Dreamwell and its licensee Simmons and we need to prevent further damage.

To that end, we demand that Wal-Mart cease and desist from the sale, offer for sale and manufacture of any product that infringes our U.S. Patent Re. 36,142. We further require that Wal-Mart provide us with an accounting of all sales of Zinus Products that have occurred within the United States, in order for Dreamwell to determine the monetary damages due for infringing sales.

Further, your company's distribution of any product under our *Pocket Coil*® mark must now cease as it violates federal and state laws and will cause Dreamwell irreparable harm. In contrast, the use of the non-infringing, generic terms such as encased coil or Marshall coil to describe spring technology will eliminate the confusion as to the origin of your product.

Additionally, Dreamwell demands that, within 60 days of receipt of this letter, Wal-Mart certify that, to the extent you refer to Marshall coils on the products you distribute, on your website or in your advertising or promotional materials, you will refer to them by a non-infringing, generic description such as Marshall coil or encased coil.

ROPES & GRAY LLP

Thomas A. Mars
Executive Vice President and General Counsel
Wal-Mart Stores, Inc.

- 3 -

May 18, 2007

Due to the serious nature of these matters and the continued irreparable harm to Dreamwell and Dreamwell's licensee, Simmons, please confirm in writing your receipt of this letter and Wal-Mart's commitment to cease and desist the sale of infringing product and all use of the *Pocket Coil*® mark no later than **June 1, 2007**.

If you have any questions regarding this matter, you may contact me at (617) 951-7532.

Sincerely,



Edward J. Kelly

EJK:dec
Enclosures

cc: Kristen McGuffey, Esq.
Agnes Lee, Esq.
Clara DeQuick, Esq.



US00RE36142E

United States Patent [19]

[11] E

Patent Number: Re. 36,142**Steed et al.**[45] **Reissued Date of Patent: Mar. 16, 1999**[54] **METHOD OF PACKAGING RESILIENTLY COMPRESSIBLE ARTICLES**

3,585,700 6/1971 Jansson 53/436

3,611,524 10/1971 Broyles 53/432

4,234,983 11/1980 Stumpf .

[75] **Inventors: C. Edward Steed, Alpharetta; Ricky F. Gladney, Fairburn, both of Ga.**

4,575,990 3/1986 von Bismarck 53/469

4,854,023 8/1989 Stumpf 53/114

[73] **Assignee: Simmons Company, Atlanta, Ga.**[21] **Appl. No.: 919,655**[22] **Filed: Aug. 28, 1997***Primary Examiner—James F. Coan**Assistant Examiner—Gene L. Kim**Attorney, Agent, or Firm—Jones, Day, Reavis & Pogue***Related U.S. Patent Documents**

Reissue of:

[64] **Patent No.: 5,622,030****Issued: Apr. 22, 1997****Appl. No.: 694,803****Filed: Aug. 9, 1996**

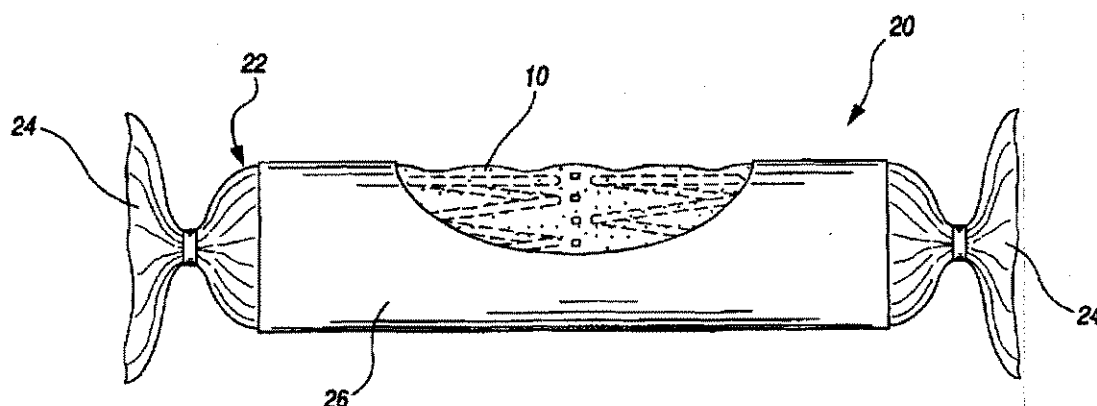
U.S. Applications:

[63] **Continuation of Ser. No. 416,065, Apr. 4, 1995, abandoned.**[51] **Int. Cl.⁶ B65B 1/24**[52] **U.S. Cl. 53/436; 53/524; 53/528; 53/114**[58] **Field of Search 53/432, 436, 469, 53/399, 114, 524, 528**[56] **References Cited****U.S. PATENT DOCUMENTS**

1,861,429 5/1932 Schneider et al. 53/114

9 Claims, 3 Drawing Sheets[57] **ABSTRACT**

A method of packaging a resiliently compressible article comprises the steps of inserting the article into a tube of deformable material such that excess material is provided at the ends of the tube. A first end of the tube is then sealed closed. Air is then evacuated from the tube through the second end thereby deforming the tube around the article and causing the article to compress. While a vacuum is maintained in the tube, the second end of the tube is sealed closed. A containment sleeve is fitted over the sealed tube to maintain the article in a compressed state. When the article is unpackaged, the containment sleeve is severed and the tube is allowed to expand in a gradual controlled fashion by the bleeding of air back into the tube.



U.S. Patent

Mar. 16, 1999

Sheet 1 of 3

Re. 36,142

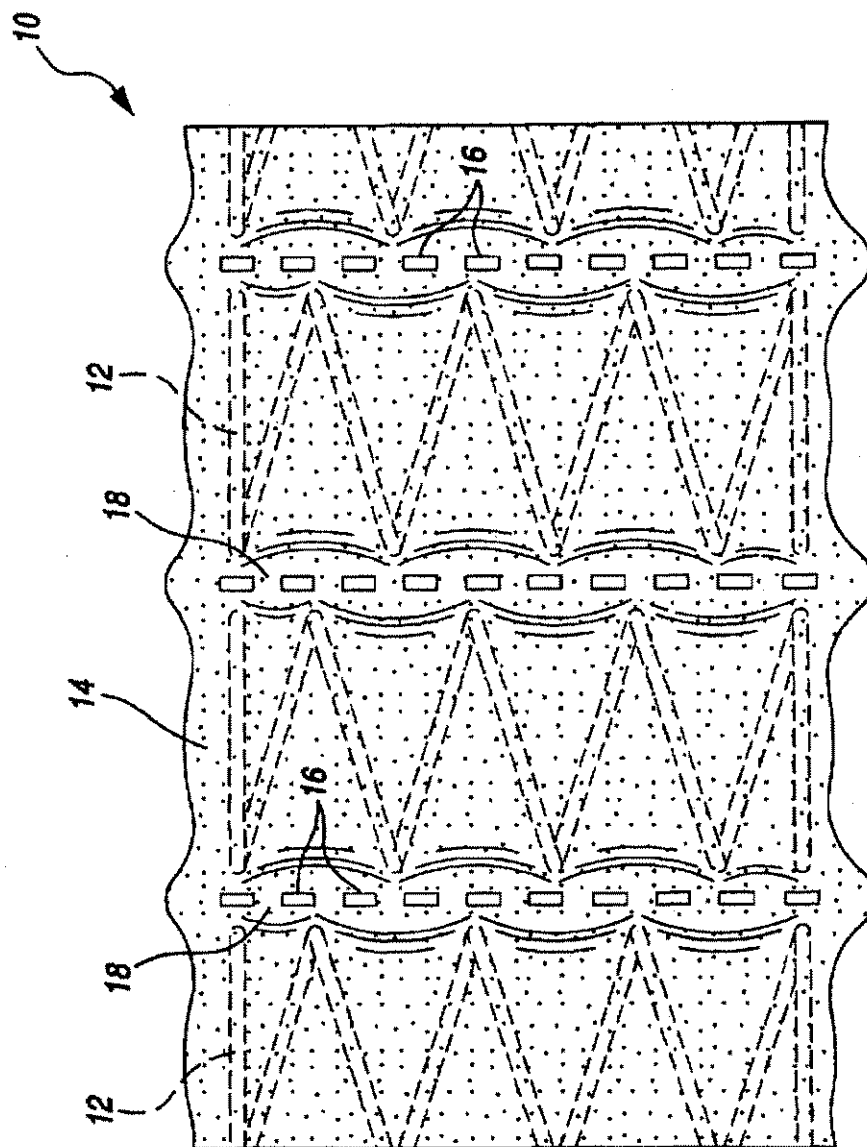


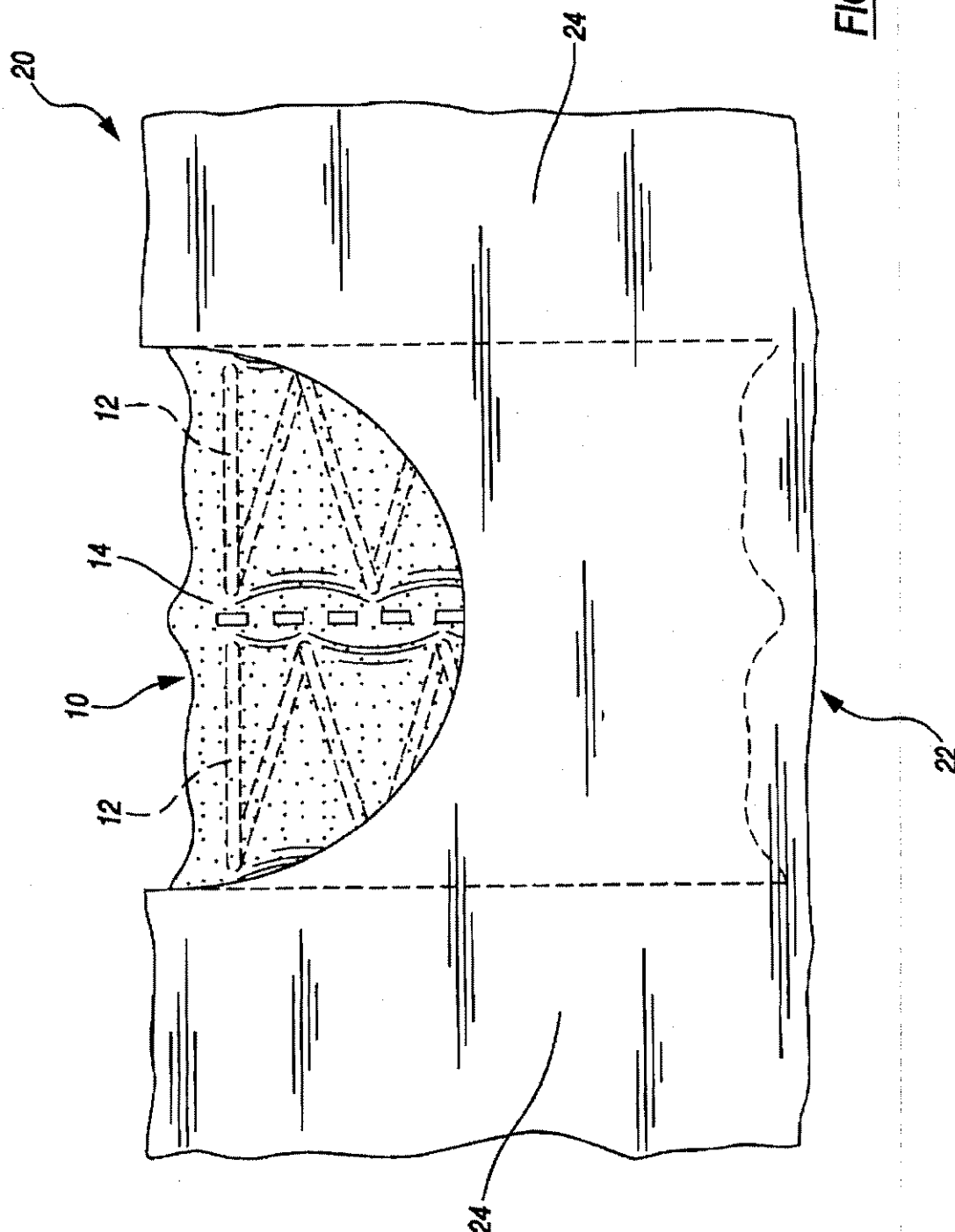
FIG. 1

U.S. Patent

Mar. 16, 1999

Sheet 2 of 3

Re. 36,142



U.S. Patent

Mar. 16, 1999

Sheet 3 of 3

Re. 36,142

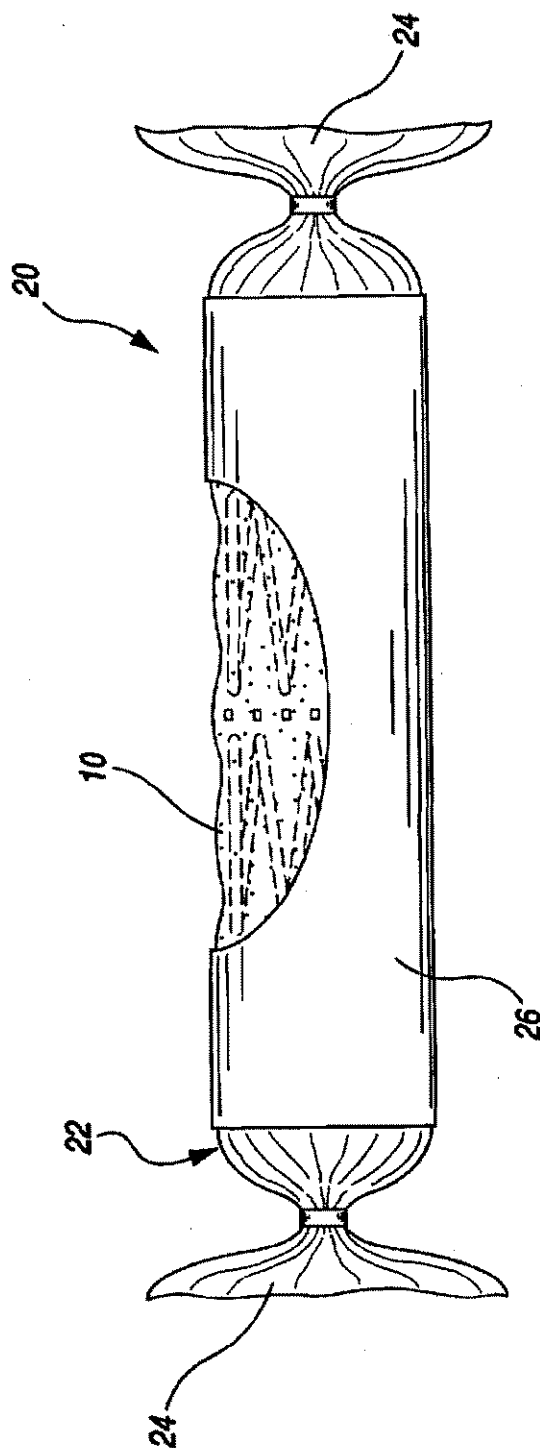


FIG. 3

Re. 36,142

1

METHOD OF PACKAGING RESILIENTLY COMPRESSIBLE ARTICLES

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

This application is a reissue application of Ser. No. 08/694,803 filed on Aug. 9, 1996 now U.S. Pat. No. 5,622,030 which is a continuation of application Ser. No. 08/416,065 filed on Apr. 4, 1995 abandoned.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to a method of packaging resiliently compressible articles and, more particularly, to a method wherein compressible articles can be conveniently packaged for shipment in a compressed state and can be unpackaged at their destination in a controlled manner.

2. Description of the Prior Art

Many articles of manufacture are lightweight and bulky and cannot be delivered to the consumer without an undesirably high cost associated with shipment. Often these articles are also inexpensive to manufacture but their cost to the consumer necessarily reflects a disproportionately high component of shipping charges, thereby adversely affecting the perceived value of the article to the consumer. One such article whose cost of shipment is undesirably high as compared to its manufactured cost is an innerspring component of a typical mattress, cushion or the like.

In standard mattress construction, for example, an innerspring assembly is used comprising an arrangement of closely packed coil springs. One form of innerspring construction which has proved to be highly successful is known as the Marshall construction. In this construction, individual coil springs are encapsulated in discrete pockets of fabric material with the pockets of fabric material formed together to create strings of coils. These strings of coils are then arranged in an array with the coil springs all oriented parallel to one another, thereby forming an innerspring assembly. An example of such construction is disclosed in U.S. Pat. No. 4,234,983, issued to Stumpf and assigned to the common assignee herein, the disclosure of which is expressly incorporated hereby by reference.

In order to construct a mattress assembly which provides adequate support yet is comfortable to the user, the springs used in the foregoing construction characteristically have such few coil turns and have such relatively weak compressive strength that they can be readily compressed to a size on the order of one-tenth their naturally expanded size. Accordingly, strings of coils of the foregoing type are lightweight and considerably bulky.

Recently, a new construction of mattress has been developed which is capable of being disassembled to knocked down form for convenient shipment to customers or retail outlets. Such a knock down mattress is disclosed in co-pending U.S. patent application Ser. No. 08/398,227 filed Mar. 3, 1995, assigned to the common assignee herein. This construction comprises four bolsters each having a generally rectangular cross section and dimensioned to be arranged in a mattress outline. The bolsters are retained within a shell having a bottom panel, perimeter side panels and a zippered cover panel. Each bolster comprises a fabric casing which contains lengths of pocketed spring coils.

The aforesaid mattress assembly, because of its knock down construction, can be shipped in a highly economical

2

manner by comparison to conventional unitary mattress structures. The components of this mattress can be assembled into packages of very manageable size for shipment. However, it is desirable to provide a packaging method which further reduces the size of the packaging. To this end, vacuum packaging of the coil springs may be employed wherein the strings of coils are compressed within an initially evacuated plastic tube and retained in a compressed state by a containment sleeve fitted over the tube as the vacuum source is removed.

Because conventional springs of the pocketed coil type can be compressed significantly from their naturally extended state, substantial reductions in size of packaging for such springs can be achieved by vacuum packaging methods. However, a disadvantage of using known vacuum packaging methods to provide a compressed package of springs is that once the vacuum source is removed from the inner tube, the springs are entirely dependent upon the presence of the outer containment sleeve for retaining their compressed condition. Thus, once the containment sleeve is severed, such as in opening of the package, the springs can expand to their fully extended state in an uncontrolled and somewhat abrupt manner. The result is that opening of the spring package by severing the containment sleeve with a sharp instrument, for example, can be a surprising and possibly dangerous experience. Accordingly, it is desirable to provide a vacuum packaging method for packaging springs in a manner which permits controlled expansion of the springs upon opening of the package.

SUMMARY OF THE INVENTION

The present invention improves over the prior art by providing a method of packaging a resiliently compressible article comprising the steps of inserting the article into a tube of deformable material such that excess material is provided at the ends of the tube. A first end of the tube is then sealed closed. Air is then evacuated from the tube through the second end thereby deforming the tube around the article and causing the article to compress. While a vacuum is maintained in the tube, the second end of the tube is sealed closed. A containment sleeve is fitted over the sealed tube to maintain the article in a compressed state. When the article is unpackaged, the containment sleeve is severed and the tube is allowed to expand in a gradual, controlled fashion by the bleeding of air back into the tube.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other novel features of the invention will become apparent upon a reading of the following detailed description taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a fragmentary side elevational view of a string of pocketed coil springs as known in the prior art;

FIG. 2 is a side elevational view partly broken away showing a packaging system in accordance with the invention prior to evacuation; and

FIG. 3 is a side elevational view partly broken away showing the packaging system after evacuation.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and initially to FIG. 1, a string of coil springs, as known in the art for use in innerspring construction of mattresses or the like is designated generally by the reference numeral 10. The coil string

Re. 36,142

3

10 includes individual coil springs 12 which are encapsulated in discrete pockets of suitable fabric 14. The fabric 14 is preferably heat sensitive such that ultrasonically formed welds 16 create webs 18 between adjacent coils 12 thereby defining the pockets. It can be appreciated that in this construction of a mattress innerspring or the like, the coil springs 12 are typically formed of relatively few coil turns and relatively weak compressive strength. Accordingly, these springs 12 can readily be compressed to a size which is only a fraction of their naturally expanded size.

Turning now to FIG. 2, a package system in accordance with the invention is designated generally by the reference numeral 20. The system 20 is shown as packaging a string of coil springs 10 of the type illustrated in FIG. 1, comprising coil springs 12 which are pocketed in fabric 14. The string 10 is inserted into a tube of deformable material 22. In preferred form, this material 22 is $\frac{3}{4}$ mil polyethylene which has been extruded into tubular form and is supplied in roll form. The tube 22 has a length greater than the length of the coil string 10 such that the two ends of the tube 22 define portions 24 of excess tube material 22.

Illustrated in FIG. 3 is the package system 20 shown in completed form, wherein the coil string 10 has been compressed and is maintained in a compressed state by a containment sleeve 26. Preferably, the containment sleeve 26 is an extruded tube of 4 mil polyethylene. In order to achieve the configuration of FIG. 3, one end 24 of the tube 22 is gathered and sealed. Sealing can be accomplished by various means including taking the gathered end 24, taping it closed, pinching the end 24 with a suitable clip or cable tie, or heat sealing the end 24. Then, the open end is manually gathered around a hose connected to a vacuum pump and the air within the tube 22 is evacuated. Evacuation of the tube 22 causes the tube to deform around the string of coils 10 and in turn causes the coils 10 to compress. When evacuation has reached a predetermined level, the containment sleeve 26 is installed over the compressed tube 22 and the second end 24 of the tube [is] may be sealed. The vacuum source is then removed.

It can now be appreciated that the packaging method in accordance with the invention provides a highly desirable method for packaging articles which are resiliently compressible. Although the invention has been described in connection with the packaging of coil string 10, it can be appreciated that numerous other compressible articles can be packaged with the present method for cost-effective shipment. The advantages of sealing the tube 22 at both ends 24 after evacuation should likewise be apparent. When the package 20 is delivered, the customer can sever the containment sleeve 26 and initially the tube 22 together with the article encapsulated therein will remain relatively compressed under the effect of the vacuum within the tube 22. Then, depending upon the type of end 24 sealing method used, air will gradually bleed into the tube 22 allowing the compressed article to slowly expand until the inside of the tube 22 reaches ambient air pressure. Accordingly, an undesirable, abrupt expansion of the tube 22 is avoided. If a sealing method is used which is too air tight, the tube 22 can simply be punctured with a small hole to allow air to enter the evacuated tube 22. By this method of packaging, strings 10 of pocketed coil springs 12 stacked 23 inches high can readily be compressed to a stack 5 inches high and, thereby, can be packaged for cost-effective shipment.

While the present invention has been described in connection with a preferred embodiment thereof, it will be apparent to those skilled in the art that many changes and modifications may be made without departing from the true

4

spirit and scope of the invention. Accordingly, it is intended by the appended claims to cover all such changes and modifications as come within the true spirit and scope of the invention.

What is claimed is:

1. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material; sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

[sealing said second end of said tube after evacuating said tube to a predetermined state;]

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; [and

puncturing said evacuated tube to allow] whereby said mattress assembly in said tube [to] gradually [return] returns to an uncompressed state.

2. The method of claim 1 wherein said first end of said tube is sealed after gathering the excess material of said first end.

3. The method of claim 1 wherein said evacuating step includes gathering said second end of said tube around a vacuum, evacuating means.

4. The method of claim 1 wherein said tube is cut to said predetermined length from a continuous length of tube material.

5. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material; sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

sealing said second end of said tube after evacuating said tube to a predetermined state;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state.

Re. 36,142

5

6. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material; sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

sealing said second end of said tube while said tube is being evacuated to a predetermined state;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state.

7. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material; sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

6

removing said evacuated tube from said containment sleeve; and

allowing said mattress assembly in said tube to gradually return to an uncompressed state; and

said evacuated tube is punctured to allow said mattress assembly in said tube to gradually return to said uncompressed state.

8. A method of packaging a mattress assembly constructed of coil springs wherein each spring is contained within an individual pocket of fabric, comprising the steps of:

providing a tube of deformable material, said tube having a predetermined length;

inserting a mattress assembly constructed of pocketed coil springs into said tube, said mattress assembly having a length which is less than the length of said tube, thereby defining first and second tube ends of excess material;

sealing a first end of said tube;

evacuating air from said tube through said second end thereby deforming said tube around said mattress assembly and causing said mattress assembly to compress;

inserting said evacuated tube into a containment sleeve which is dimensioned and configured to retain said compressed mattress assembly in a compressed state for shipment;

removing said evacuated tube from said containment sleeve;

allowing said mattress assembly in said tube to gradually return to an uncompressed state; and

said containment sleeve is severed to allow said mattress assembly in said tube to gradually return to said uncompressed state.

9. The method of claim 1 wherein said evacuated tube inserted into said containment sleeve is allowed to expand within said containment sleeve.

* * * * *



EXHIBIT E

WAL★MART®

LEGAL DEPARTMENT

LITIGATION DIVISION

CORPORATE OFFICES
702 S.W. 8TH Street
Bentonville, Arkansas 72716-0215
Mail Stop 0215
(479) 204-6574
Fax (479) 277-5991
Michael.Li@walmartlegal.com

Michael C. Li
Assistant General Counsel, Intellectual Property Litigation

May 29, 2007

Via email

Mr Johnathan Ha
Zinus, Inc.
5TH FLOOR HANWON BLDG 6-1 SUNAE-1
Seongnam, Kyeong Gi Do
Korea
jwha@zinus.com

Re: *Alleged Patent Infringement – Dreamwell, Ltd.*

Dear Mr Ha:

Wal-Mart has received the attached claim letter from Dreamwell, Ltd., alleging that sales of the Sleep Revolution mattress-in-a-box on walmart.com may infringe Dreamwell, Ltd.'s intellectual property rights. Our investigation reveals that the products in question come from Zinus, Inc. ("Zinus").

Pursuant to the terms of Zinus' Supplier Agreement with Wal-Mart, Zinus is obligated to defend, indemnify, and hold Wal-Mart and walmart.com harmless from all claims, liabilities, losses, and expenses including reasonable attorney's fees and costs arising from sales of Zinus' products. This letter will serve as notice of the claim and request that Zinus honor these obligations under the Supplier Agreement. Wal-Mart also requests that you provide notice to the applicable insurance carrier and copy Wal-Mart on such notice. Please confirm to me by signing the attached Indemnity Acknowledgement Form by June 5, 2007 that Zinus will honor these obligations. In addition, please confirm that you have contacted the claimant by that date.

If this matter is not fully resolved by June 12, 2007, Wal-Mart will need Zinus to provide it with a clearance opinion from qualified outside counsel, or other acceptable proof of non-infringement, in order to continue selling the product. If we do not receive an acceptable opinion or other proof that we deem sufficient to establish non-infringement, we will be forced to remove the products in question from the website.

As required under the Supplier Agreement, Wal-Mart also expects that Zinus will hire acceptable counsel to represent Wal-Mart's interests if necessary.

Wal-Mart values its supplier relationships very highly, and Zinus is one of our valued supplier-partners. Wal-Mart trusts that Zinus will promptly fulfill its obligations in this matter. Please feel free to call or email me directly if you would like to discuss this matter further.

Very truly yours,

A handwritten signature in black ink, appearing to read "Michael C. Li". The signature is fluid and cursive, with the first name "Michael" being more prominent and the last name "Li" being shorter and more stylized.

Michael C. Li

Enclosure

cc (via email): Linsey Morrison
Diane Van

Indemnity Acknowledgement Form

Zinus, Inc. ("Supplier") confirms receipt of the attached demand from Wal-Mart Stores, Inc. ("Wal-Mart") for indemnification pursuant to the terms of the Supplier Agreement between Supplier and Wal-Mart (the "Supplier Agreement"). By the signature below of Supplier's authorized representative, Supplier acknowledges that the matter addressed in the letter falls within the scope of its indemnification obligations under paragraph 19 of the Supplier Agreement and confirms that Supplier will defend and indemnify Wal-Mart and its subsidiaries and affiliates and hold them harmless for any and all liability or costs incurred in connection with such matter.

By: _____

Printed Name: _____

Title: _____

A signed copy of this form (including the accompanying correspondence) should be returned by email to Alanna Hunt at alanna.hunt@walmartlegal.com. As part of Wal-mart's sustainability commitment, unless requested, it is not necessary to send a duplicate hard copy by mail.